

INTERNATIONAL SOYBEAN VARIETY EXPERIMENT

**NINTH REPORT OF RESULTS
1982**

Joseph A. Jackobs, Charles A. Smyth,
and Danny R. Erickson



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UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

International Soybean Variety Experiment

Ninth Report of Results

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FOREWORD

INTSOY is focusing its efforts on the improvement of soybean production and use in the tropical and subtropical regions of the world where protein, calorie, and nutrition problems tend to be concentrated. The International Soybean Variety Evaluation Experiment (ISVEX), initiated in 1973, is the major component of INTSOY's genetic improvement program.

The trials provide cooperating scientists with the opportunity to have their elite breeding material evaluated globally and compared with cultivars from other countries. Information from past trials has added to the broad understanding of soybean genetic response to different environments. Scientists in more than 20 countries have identified cultivars from these trials to grow commercially. Many others have used this germplasm in their breeding programs.

The ninth report of results covers the year 1982. The trials reported in this publication were evaluated by cooperators in 47 different countries. Cultivars were contributed by breeders from 9 countries for evaluation in these trials. Seeds and materials for the experiment were prepared and distributed by INTSOY at the request of the cooperating scientists. Each cooperator provided

land, labor, fertilizer, and management necessary for the experiment. We express our thanks and appreciation to these scientists and their organizations, whose cooperation is essential to the success of ISVEX. Their names and addresses are listed immediately following this foreword. Also we wish to thank those organizations which assisted in the distribution of the trials. Notable among these are the Food and Agriculture Organization (FAO) of the United Nations, United Nations Development Programme (UNDP), and the U.S. and French governments.

Dr. Joseph A. Jackobs provides leadership to the ISVEX trial program. He has been ably assisted by Mr. Danny R. Erickson, Assistant Agronomist in seed increase; Mr. Charles A. Smyth, Assistant Statistician in data analysis; and Ms. Bonnie J. Irwin in editing.

INTSOY is pleased to add this ninth report of results to the INTSOY publication series. We very much welcome your response.

— Harold E. Kauffman, Director
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Abu-Naama, Sudan
Trial number(s): 712*

Sudan, continued

Dr. Mukhtar Mekei Kanani and Mr. Ibrahim Ioweloladina
Agriculture Research Corp.
Kudugli Research Center
P.O. Box 5141
Khartoum South, Sudan
Trial number(s): 545*

Dr. El Sherbeeney
Food Legume Research Center
Agricultural Research Center
Field Crops Institute
Giza, Egypt
Trial number(s): 719

Dr. Gaafar El Sarrag Mohamed
Agricultural Research Station
Hudeiba Research Station
P.O. Box 31
Ed-Daner, Sudan
Trial number(s): 532*

Swaziland

Mr. John Pali Schikhulu, Mr. I. S. Kunene, and Mr. C. Seubert
Malkerns Research Station
P.O. Box 4
Malkerns, Swaziland
Trial number(s): 735*, 842*, 734, 736

Syria

Dr. Hamed Masouker and Dr. Rafic El Saleh
Ministry of Agriculture and Agrarian Reform
Damascus, Syria
Trial number(s): 705, 803

Tahiti

Mr. Jean Louis Reboul
GERDAT-IRAT
B.P. 494
Papeete, Tahiti
Trial number(s): 522

Tanzania

Dr. A. J. Carpenter
Box 159
Zanzibar, Tanzania
Trial number(s): 549, 595

Thailand

Mr. Amnuay Tongdee and Mr. Khoronthong Puangprakone
Tak-Fah Field Crops Research Center
Tak-Fah, Nakornsawan, Thailand
Trial number(s): 556*
Dr. Peerasak Srinives and Mr. Attapol Suwanwongse
Kasetsart University, Department of Agronomy
Bangkhen, Bangkok 9, Thailand
Trial number(s): 567*

Togo

Chef de la Mission
IRAT/Togo
B.P. 1163
Lome, Togo
Trial number(s): 546

Turkey

Dr. Nadir Izgin
General Directorate of Agricultural Research
P.O. Box 226
Ankara, Turkey
Trial number(s): 835, 836
Dr. Yasar Bilgin, Mr. Cevdet Nalci, and Mr. T. Arkont Seker Enstitusu
Agronomi Sube Sefi
Etimesgut-Ankara, Turkey
Trial number(s): 709, 807*, 806*, 808*
Dr. Y. Zia Kutlu and Mr. Suat Cinsoy
Regional Agricultural Research Institute
P.O. Box 9
Menemen, Izmir, Turkey
Trial number(s): 816*
Dr. Ibrahim Atakisi and Dr. Halis Arioglu
G. U. Ziraat Fakultesi
P.K. 444
Adana, Turkey
Trial number(s): 837*

Uganda

USAID Agricultural Representative
American Embassy/Kampala
Department of State
Washington, D.C. 20521, U.S.A.
Trial Number(s): 740

United States

Dr. Richard A. Creelman
Texas Agricultural Experiment Station
2415 East Highway 83
Weslaco, TX 78596, U.S.A.
Trial number(s): 570*
INTSOY
Department of Agronomy
1102 South Goodwin Avenue
Urbana, IL 61801, U.S.A.
Trial number(s): 832*

Upper Volta

Dr. S. Asimi
IRHO/H.V.
B.P. 1345
Ougadougou, Upper Volta
Trial number(s): 547

Uruguay

Ing. Nicolas Chebataroff and Ing. Enrique Deambrosi
Estacion Experimental del Este
A. Miranda y A. R. de Segarra
Treinta y Tres, Uruguay
Trial number(s): 729*
Ing. Luis Amendola
Estacion Experimental del Norte
General Flores 390
Tacuarembó, Uruguay
Trial number(s): 728

Venezuela

Ing. Pedro Juan Rodriguez
Fundacion Servicio para el Agricultor
Apartado. 162
Cagua, Edo. Aragua, Venezuela
Trial number(s): 550

Vietnam

Dr. Ngo Quang Thang
National Institute of Agricultural Science
Thanh-Tri, Hanoi, Vietnam
Trial number(s): 596

Ing. Bohumir Hlava and Prof. J. Jara
Czechoslovakian Embassy
Hanoi, Vietnam
Trial number(s): 724*

Yugoslavia

Mr. Jahko Dumanovic and Mr. Vitomir Bekric
Maize Research Institute
P.O. Box 89
11080 Zemun, Yugoslavia
Trial number(s): 811*, 812

Zaire

Dr. Q. H. Nguyen, Ir. Bouwe, Ir. Elukesu, Ir. Bakulikira, and
Ir. Komba L.

MASI/INERA — Bukavu
Mulungu Research Station
Department of State
Washington, D. C. 20521, U.S.A.
Trial number(s): 720*, 744*

Dr. Bridgmon, Mr. Mbakayi, and Ir. Elukesu
MASI/INERA — Bukavu
Mulungu Research Station, Zaire
Trial number(s): 599

Rev. Ken Lundell
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5125 North Franciscan
Chicago, Illinois 60625, U.S.A.
Trial number(s): 564

Zambia

Dr. F. Javaheri and Dr. Jagoman Joshi
Department of Agriculture
Mt. Makulu Research Station
Private Bag 7
Chilanga, Zambia
Trial number(s): 588, 587, 586*

Zimbabwe

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INTERNATIONAL SOYBEAN VARIETY EXPERIMENT

Ninth Report of Results, 1982

This publication is the ninth report of results from the International Soybean Variety Evaluation Experiment (ISVEX), organized in 1973 by the International Soybean Program (INTSOY) of the University of Illinois at Urbana-Champaign and the University of Puerto Rico at Mayaguez, under a contract with the Agency for International Development, U. S. Department of State.

ISVEX is designed to

- test the adaptation of soybean cultivars (varieties) under a wide range of environmental conditions
- provide research workers with an opportunity to compare local and introduced cultivars
- provide a source of new germplasm which a cooperator can use directly or incorporate into a breeding program
- identify areas of the world that have the potential for soybean production
- evaluate the response of soybeans to different environments

MATERIALS AND METHODS

ISVEX Sites

In 1982 a number of institutions and individuals around the world were contacted concerning their interest in conducting the ISVEX. Instructions for management and data collection were sent with the seed to scientists who agreed to participate in the ISVEX network. The soybean seed was packaged for individual row planting, and granular inoculant was provided for distribution in the row with the seed. The experiment was designed as a randomized complete block with four replications. Each cultivar was planted in a plot in each

of the 4 blocks (replications). A plot consisted of four rows 5 m long and 60 cm apart. Data were obtained from the center two rows.

It was suggested in the instructions that a trial site be chosen which had a uniform crop history and where the soil was well drained. A soil analysis was recommended for determination of pH, organic matter, phosphorus, and potassium. It was recommended that an application of 25 kg/ha N, 25 kg/ha P, and 25 kg/ha K be broadcast and worked into the plot prior to planting.

Sufficient seed was provided to overplant approximately 75%. It was recommended that the plants be thinned soon after emergence to a stand of one plant per 5 cm.

Mechanical or chemical methods of weed control were suggested according to the facilities available to the cooperator. Chemicals were suggested for use in control of insects.

Cultivars

Cultivars entered in the 1982 ISVEX were selected for various traits, including agronomic performance, maturity group classification, seed availability, uniform seed quality, and adaptability. Cultivars in earlier trials which demonstrated consistent high yields were selected for introduction into the ISVEX trials. There were 40 cultivars entered in the 1982 ISVEX. The pedigrees of the soybean cultivars tested can be found in Table 1.

Twenty-five of the 40 cultivars were adapted to the tropics and subtropics. Of these 25, fifteen were selected and developed in these regions. Each year, an attempt is made to include a high proportion of cultivars from the tropics and subtropics.

The cultivars were divided into three groups according to their maturity group and were dis-

Table 1. Pedigree and origin of soybean cultivars entered in the 1982 International Soybean Variety Evaluation Experiment (ISVEX)

| Cultivar | Maturity group | Pedigree | Origin or Sponsor |
|------------------|----------------|--|---|
| Alamo | IX | D49-2491 × (P.I. 240664 × D49-2491) | Rio Farms Inc., and USDA, U.S.A. |
| Amscor | II | Amsoy 71 × Corsoy | OARDC and USDA, U.S.A. |
| Bossier | VII | Selection from Lee | Louisiana AES and USDA, U.S.A. |
| Braxton | VII | F59-1505 × (Bragg ³ × D60-796) | Florida AES and USDA, U.S.A. |
| Calland | III | C1253 × Kent | Purdue University AES and USDA, U.S.A. |
| Century | II | Calland × Bonus | Purdue University AES and USDA, U.S.A. |
| CEP 7717 | VII | Hill × Bossier | L. P. Bonetti, CEP-FECOTRIGO, Brazil |
| Clay | O | Renville × Capital | Minnesota AES and USDA, U.S.A. |
| Corsoy 79 | II | Corsoy ⁶ × Lee 68 | Illinois AES and USDA, U.S.A. |
| Crawford | IV | Williams × Columbus | Kansas AES and USDA, U.S.A. |
| Davis | VI | [Roanoke × (Ogden × CNS)] × (Ralsoy × Ogden) | Arkansas AES and USDA, U.S.A. |
| Ecuador 1 | N/A | Jupiter × F65-170 | INIAP, Ecuador |
| Ecuador 2 | N/A | Jupiter × F65-170 | INIAP, Ecuador |
| Essex | V | Lee × S5-7075 | Virginia AES and USDA, U.S.A. |
| Evans | 0 | Merit × Harosoy | Minnesota AES and USDA, U.S.A. |
| Fayette | III | Williams × P.I. 88788 | Illinois AES and USDA, U.S.A. |
| Foster | VIII | Centennial × [Forrest × (Cobb × D68-216)] | Florida AES and USDA, U.S.A. |
| G 2120 | N/A | Selection — Accession (No. 1039) | S. Shanmugasundaram, AVRDC, Taiwan, China |
| Hardin | I | Corsoy ³ × Cutler 71 | Iowa Agric. Home Econ. Exp. Stn., U.S.A. |
| HM-1 | VIII | UPSS-3 × Clark-63 | S. R. Khurang and T. P. Yadava, Haryana Agr. Univ., India |
| Hodgson 78 | I | Selection from Hodgson × Merit | Minnesota AES and USDA, U.S.A. |
| ICA L-109 | N/A | Hardee × (C. Hill × P.I. 274454) | G. Bastidas, ICA, Colombia |
| ICA L-124 | VII | Mandarin × (Davis × Hill) | G. Bastidas, ICA, Colombia |
| ICA L-125 | N/A | ICA Pance × Hale 3 | G. Bastidas, ICA, Colombia |
| IGH 23 | N/A | Selection from Jupiter × F65-170 | E. H. Paschal, Guyana/Puerto Rico |
| IGH 24 | N/A | Selection from Jupiter × F65-170 | E. H. Paschal, Guyana/Puerto Rico |
| Improved Pelican | VIII | Tanloxi × P.I. 60406 | Louisiana AES, U.S.A. |
| ISRA/IRAT 44A/73 | VIII | 72-20(F3) × Geduld | J. Larcher, ISRA and IRAT, Senegal |
| Jupiter | IX | D49-2491 × P.I. 240664 | Florida AES and USDA, U.S.A. |
| Kent | IV | Lincoln × Ogden | Purdue University AES and USDA, U.S.A. |
| Lakota | I | Selection from AP6(S1)C1 | Iowa Agric. Home Econ. Exp. Stn. and USDA, U.S.A. |

Continued

Table 1. Pedigree and origin of soybean cultivars entered in the 1982 International Soybean Variety Evaluation Experiment (ISVEX), continued

| Cultivar | Maturity group | Pedigree | Origin or Sponsor |
|-------------|----------------|--|---|
| Pella | III | L66L-137[Wayne × L57-0034 (Clark × Adams)] × Calland | Iowa Agric. Home Econ. Exp. Stn. and Puerto Rico AES, U.S.A. |
| Pixie | IV | Williams × Ransom | OARDC and USDA, U.S.A. |
| PK-73-85 | N/A | UPSL 85 × Hardee | B. B. Singh, G. B. Pant University of Agriculture and Technology, India |
| PK-73-94 | N/A | UPSL 85 × Hardee | B. B. Singh, G. B. Pant University of Agriculture and Technology, India |
| SIATSA 194 | IX | Selection from Biloxi × Hardee | J. Romero, SIATSA, Honduras |
| Sparks | IV | Williams × Calland | Kansas AES and USDA, U.S.A. |
| UFV-1 | VIII | D49-2491 × Improved Pelican (Vicoja Selection) | Universidade Federal de Vicosa, Brazil |
| Williams 82 | III | Williams ⁷ × Kingwa | R. L. Bernard, Illinois AES and USDA, U.S.A. |
| 71-38 | IX | Gilbert × K53 | F. Javaheri and D. E. Byth, Dept. of Agriculture, Zambia |

tributed among cooperators according to the environmental zone of the site. Later maturing cultivars were distributed in subtropical and tropical zones while earlier maturing cultivars were dispatched to more temperate areas. These three groups were designated A (tropical), B (subtropical), and C (temperate). The cultivar Williams was common to all three sets (see Table 2).

The ISVEX instructions indicated that the co-operator could substitute one or two local soybean cultivars for those which were supplied by INT-SOY. A number of substitutions were made. The data on the performance of these cultivars are shown in Tables 9 to 85, which contain the analysis of data for each location.

Experiment Sites

The experiment sites were divided into 13 environmental zones which were defined by latitude and altitude. These zones were defined by each 10° increment in latitude from the equator, and by three altitude ranges: 0-500 m, 501-1000 m, and over 1000 m. The limits of each zone and the number of sites in each zone are shown in Table 3. Separating the trial sites by latitude permitted evaluation of cultivars under different conditions of daylength. Separation according to

altitude permitted evaluation under different conditions of day- and night-time temperatures. There was some variation within each zone in temperature, moisture, and solar radiation.

Planting date for each site was determined by the environment. Plantings were made throughout the year. Many researchers and scientists are beginning to use ISVEX material in different cropping systems.

For the 1982 ISVEX, 180 trials were dispatched to 81 countries. Data were returned for 77 trials from 47 countries (Table 4). Figure 1 shows the location of the countries where trials were completed. Of the 47 countries, 18 were in Africa, 9 in Asia, 6 in South America, 5 in MesoAmerica, and 9 in Europe, the Middle East, North America and Oceania. The cultivars were evaluated under a wide range of environmental conditions. The northernmost site was at Zemun Polje, Beograd, Czechoslovakia (45°N, 20°21'E, 84 m), and the southernmost site was in Pirque, R. M., Chile (33°40'S, 70°36'W, 654 m). The highest site was located at Mulungu, Kivu, Zaire (2°19'S, 28°45'E, 1,731 m), and the lowest site, in Bourail, New Caledonia (21°5'S, 165°5'E, 2 m). Data were returned from 44 trials located between 20°N and 20°S latitudes.

Table 2. Soybean cultivars by group grown in the 1982 International Soybean Variety Evaluation Experiment

| Group A Tropical | Group B Subtropical | Group C Temperate |
|---------------------|------------------------|----------------------|
| Alamo | Alamo | Amcor |
| Bossier | Bossier | |
| | Braxton | |
| | CEP 7717 | |
| Davis | Crawford | Calland |
| | Davis | Century Clay |
| | Ecuador 1 | Corsoy 79 |
| | | Crawford |
| Ecuador 2 | | |
| | Essex | Essex |
| | | Evans |
| | | Fayette |
| Foster | Foster | |
| | G 2120 | |
| | | Hardin |
| | HM 1 | |
| | | Hodgson 78 |
| ICA L-109 | | |
| ICA L-124 | ICA L-124 | |
| ICA L-125 | | |
| IGH 23 | | |
| IGH 24 | | |
| Improved Pelican | | |
| ISRA/IRAT 44A/73 | | |
| Jupiter | Jupiter | |
| | | Kent |
| | | Lakota |
| | | Pella |
| | | Pixie |
| | PK-73-86 | |
| | PK-73-94 | |
| SIATSA 194 | SIATSA 194 | |
| | | Sparks |
| UFV-1 | | |
| Williams 82 | Williams 82 | Williams 82 |
| 71-38 | | |

Table 3. Description of environmental zones in the 1982 International Soybean Variety Evaluation Experiment

| Zone | Latitude | Elevation (m) | Number of sites |
|------|------------|------------------|--------------------|
| 1 | 0°-10°59' | ≤500 | 11 |
| 2 | 0°-10°59' | 501-1,000 | 1 |
| 3 | 0°-10°59' | >1,000 | 7 |
| 4 | 11°-20°59' | ≤500 | 19 |
| 5 | 11°-20°59' | 501-1,000 | 3 |
| 6 | 11°-20°59' | >1,000 | 2 |
| 7 | 21°-30°59' | ≤500 | 18 |
| 8 | 21°-30°59' | 501-1,000 | 1 |
| 9 | 21°-30°59' | >1,000 | 2 |
| 10 | 31°-40°59' | ≤500 | 9 |
| 11 | 31°-40°59' | 501-1,000 | 2 |
| 12 | 31°-40°59' | >1,000 | 0 |
| 13 | ≥41° | ≥0 | 2 |

The symbols >, ≥, and ≤ refer to greater than, greater than or equal to, and less than or equal to, respectively.

Figure 1. Countries from which data were returned in the 1982 International Soybean Variety Evaluation Experiment.



NORTH AMERICA

United States

MESO AMERICA

Dominican Republic
Guatemala
Mexico
Nicaragua
Puerto Rico

SOUTH AMERICA

Chile
Colombia
Ecuador
French Guiana
Paraguay
Uruguay

EUROPE

Azores
Portugal
Yugoslavia

AFRICA

Cameroon
Egypt
Gabon
Ghana
Ivory Coast
Madagascar
Mauritius
Morocco
Mozambique
Reunion
Rwanda
Senegal
Somalia
Sudan
Swaziland
Zaire
Zambia
Zimbabwe

MIDDLE EAST

Cyprus
Saudi Arabia
Turkey

ASIA

Bangladesh
Burma
China (Taiwan)
Indonesia
Nepal
Pakistan
Korea
Thailand
Vietnam

OCEANIA

New Caledonia
New Hebrides

TABLE 4. Geographical description of sites where the 1982 International Soybean Variety Evaluation Experiment was conducted and from which useful data were returned to INTSOY.

| Country | Site | Trial number | Latitude | Longitude | Elevation (m) | Zone | Group |
|--------------------|--|--------------|----------|-----------|---------------|------|-------|
| Azores | Vinha Brava, Terceira | 809 | 38°40'N | 27°13'W | 160 | 7 | C |
| Bangladesh | Feni Noakhali | 583 | 23°N | 91°25'E | 10 | 7 | A |
| Burma | Yezin | 560 | 19°10'N | 96°07'E | 102 | 4 | A |
| Cameroon | Dschang | 502 | 5°27'N | 10°05'E | 1,450 | 3 | A |
| Chile | Pirque, R.M. | 841 | 33°40'S | 70°36'W | 654 | 11 | C |
| China (Taiwan) | AVRDC, Shanhua | 544 | 23°01'N | 120°17'E | 9 | 7 | A |
| | AVRDC, Shanhua | 716 | 23°01'N | 120°17'E | 9 | 7 | B |
| Colombia | Centro Experimental Palmira | 501 | 3°32'N | 76°17'W | 1,008 | 3 | A |
| Cyprus | Orounda | 708 | 35°08'N | 33°05'E | 350 | 10 | B |
| Dominican Republic | CESDA, San Cristobal | 543 | 18°25'N | 70°06'W | 44 | 4 | A |
| Ecuador | Estacion Experimental Boliche | 511 | 2°15'S | 79°15'W | 14 | 1 | A |
| | Estacion Experimental Pichilingue | 512 | 2°15'S | 79°38'W | 14 | 1 | A |
| Egypt | Shalakan, Kalubia Nat. Res. Centre | 707 | 30°N | 31°E | 20 | 7 | B |
| | Shalakan, Cairo | 801 | 30°N | 30°E | 30 | 7 | C |
| French Guiana | Cabassou | 504 | 4°50'N | 52°18'W | 7 | 1 | A |
| Gabon | CIAM Project, Ntoul | 507 | 0°05'N | 9°45'E | 18 | 1 | A |
| | Lebamba | 574 | 2°03'S | 12°E | 200 | 1 | A |
| Ghana | MIM Brong, Ahafo | 510 | 7°N | 2°W | 250 | 1 | C |
| | Cape Coast | 514 | 5°06'N | 0°W | 6 | 1 | A |
| Guatemala | La Maquina, Cuyotenango, | 557 | 14°23'N | 91°35'W | 100 | 4 | A |
| | Suchitepequez | | | | | | |
| | Cuyuta, Escuintla | 558 | 14°17'N | 90°50'W | 48 | 4 | A |
| Indonesia | Cuyuta, Escuintla | 579 | 14°17'N | 90°50'W | 48 | 4 | A |
| | Kuningan Exp. Farm, West Java | 517 | 6°S | 112°E | 545 | 2 | A |
| | Brastagi, North Sumatra | 521 | 3°09'N | 98°35'E | 1,400 | 3 | A |
| Ivory Coast | Dikodougou | 561 | 8°05'N | 5°09'W | 400 | 1 | A |
| | Touba | 562 | 8°02'N | 7°09'W | 400 | 1 | A |
| Korea | Suweon | 831 | 37°16'N | 126°59'E | 37 | 10 | C |
| Madagascar | Mandoto Amparihy | 578 | 19°47'S | 46°11'E | 900 | 5 | A |
| | Mandoto Amparihy | 727 | 19°47'S | 46°11'E | 900 | 5 | B |
| Mauritius | Reduit | 565 | 20°S | 57°E | 306 | 4 | A |
| Mexico | Cayal Campeche | 538 | 19°45'N | 90°11'W | 35 | 4 | A |
| | Tapachula, Chiapas | 539 | 14°30'N | 92°10'W | 9 | 4 | A |
| | Campo Agricola Auxiliar Ebano | 715 | 22°13'N | 98°07'W | 15 | 7 | B |
| Morocco | Semva Sidi Slimome, Gharb | 713 | 34°30'N | 8°03'W | 85 | 10 | B |
| | Station Oulad Gnaoy, Tadla | 815 | 32°N | 5°W | 445 | 10 | C |
| Mozambique | Lioma | 585 | 15°04'S | 36°30'E | 670 | 5 | A |
| Nepal | Khumaltar Agric. Farm | 822 | 27°46'N | 85°20'E | 1,360 | 9 | C |
| | Rampur | 838 | 27°40'N | 84°19'E | 228 | 7 | C |
| New Caledonia | Bourail | 590 | 21°05'S | 165°05'E | 2 | 7 | A |
| New Hebrides | Santo | 523 | 5°30'S | 67°10'E | 90 | 4 | A |
| Nicaragua | Finca Santa Elena, Nueva Guinea | 589 | 12°N | 84°W | 250 | 4 | A |
| Pakistan | Agricultural Research Institute, Tando Jam | 820 | 25°02'N | 63°38'E | 19 | 7 | C |
| Paraguay | Instituto Agronomico Nacional, Caacupe | 726 | 25°S | 57°W | 228 | 7 | B |
| Portugal | Estacao Agronomica Nacional, Oeiras | 814 | 38°45'N | 0°W | 10 | 10 | C |

Continued

TABLE 4. Geographical description of sites where the 1982 International Soybean Variety Evaluation Experiment was conducted and from which useful data were returned to INTSOY, continued.

| Country | Site | Trial number | Latitude | Longitude | Elevation (m) | Zone | Group |
|---------------|--|--------------|----------|-----------|---------------|------|-------|
| Puerto Rico | Isabela | 541 | 18°N | 40°W | 128 | 4 | A |
| Reunion | Mon Caprice, St. Pierre | 594 | 22°N | 55°E | 125 | 7 | A |
| | Mon Caprice, St. Pierre | 738 | 21°07'N | 55°03'E | 125 | 7 | B |
| Rwanda | Rubona | 739 | 2°29'S | 29°46'E | 1,650 | 3 | B |
| | Karama | 741 | 2°16'S | 30°17'E | 1,350 | 3 | B |
| Saudi Arabia | Hofuf | 551 | 25°23'N | 49°30'E | 145 | 7 | A |
| | Hofuf | 718 | 25°23'N | 49°30'E | 145 | 7 | B |
| Senegal | Sefa | 540 | 12°47'N | 15°22'W | 10 | 4 | A |
| Somalia | Afgoi | 520 | 3°30'N | 46°35'E | 50 | 1 | A |
| | Afgoi | 710 | 3°30'N | 46°35'E | 50 | 1 | B |
| Sudan | Gezira Research Station, Wad Medani | 527 | 14°24'N | 33°29'E | 400 | 4 | A |
| | Hudeiba Research Station, Ed Damer | 532 | 17°35'N | 33°27'E | 353 | 4 | A |
| | Kadugli Agric. Research Station | 545 | 11°N | 29°45'E | 264 | 4 | A |
| | Gezira Research Station, Wad Medani | 711 | 14°24'N | 33°29'E | 400 | 4 | C |
| | Kenana Research Station, Agadi | 712 | 12°44'N | 34°07'E | 435 | 4 | B |
| | Malkerns Research Station | 735 | 26°36'S | 31°10'E | 800 | 8 | B |
| Swaziland | Mangcongco | 842 | 26°15'S | 31°00'E | 1,500 | 9 | C |
| | Phraputthabat Field Crop Exp. Station, Lophuri | 556 | 14°47'N | 100°50'E | 95 | 4 | A |
| Thailand | Suwan Farm, Pakchong, Nakhonrachsisma | 567 | 14°30'N | 101°30'E | 300 | 4 | A |
| | | | | | | | |
| Turkey | Carsamba | 806 | 41°11'N | 36°45'E | 35 | 13 | C |
| | Adapazari | 807 | 30°25'N | 40°47'E | 30 | 7 | C |
| | Etimesgut | 808 | 39°57'N | 34°41'E | 800 | 11 | C |
| | Menemen, Izmir | 816 | 38°25'N | 27°05'E | 20 | 10 | C |
| | Adana | 837 | 35°19'N | 35°15'E | 90 | 10 | C |
| United States | Weslaco, Texas | 570 | 26°N | 97°W | 30 | 7 | A |
| | Urbana, Illinois | 832 | 40°07'N | 88°13'W | 226 | 10 | C |
| Uruguay | Treinta Y Tres | 729 | 33°S | 54°W | 30 | 10 | B |
| Vietnam | Experimental Legume Center, Dinh | 724 | 23°N | 105°E | 50 | 7 | B |
| Yugoslavia | Zemun Polie, Beograd | 811 | 45°N | 20°21'E | 84 | 13 | C |
| Zaire | Mulungu, Kivu | 720 | 2°19'S | 28°45'E | 1,731 | 3 | B |
| | Mulungu, INERA Station | 744 | 2°19'S | 28°45'E | 1,700 | 3 | B |
| Zambia | Magoye Regional Station | 588 | 16°01'S | 27°46'E | 1,067 | 6 | A |
| Zimbabwe | Harare Research Station | 723 | 17°48'S | 31°03'E | 1,506 | 6 | B |

DATA COLLECTED

Cooperators reported the following agronomic characteristics for each plot:

Yield: Weight in grams of clean, dry grain from 5 m of the two center rows (harvest area 6 m²).

Days to flower: Days from date of emergence to date when 50% of the plants had flowered.

Days to maturity: Days from date of emergence to date when 95% of the pods were ripe.

Plant height at maturity: Height in centimeters from the ground surface to the top of the main stem at maturity.

Lodging score: Estimated rate of lodged or down plants on a scale of 1 (all erect) to 5 (all down) as observed at time of maturity.

Shattering scores: Estimated rating of the amount of shattering of seed from the pods on a scale of 1 (no seed shattered) to 5 (over 50% shattered) at the time of maturity.

Plants harvested: Total number of plants harvested.

Pods per plant: Mean number of pods per plant estimated from ten plants.

Seed weight: Weight in grams of 100 randomly selected seeds from the dried, cleaned grain.

Quality of seed: Estimated rating of seed quality after harvest. Considered were the amount of wrinkling, defective seed coats, off-color seeds, and moldy or rotten seeds. A scale of 1 (very good quality) to 5 (very poor quality) was used.

Seed germination: Number of seeds germinated out of 100 randomly selected seeds.

STATISTICAL ANALYSIS OF DATA

Statistics were computed for variables from each experiment site. For each agronomic characteristic these included the mean, standard error of a cultivar mean, coefficient of variation, and the least significant difference (LSD) of cultivar means at the 5% level. Correlation coefficients were computed between the agronomic characteristics measured for each site and an analysis of variance (randomized complete block) was performed for complete data. Some missing data were allowed. The results of these individual analyses were reported to the cooperator(s) and a portion of these results are reproduced in Tables 9–85.

The performance of each cultivar over the sites in the experiment was characterized. The data were adjusted to remove the effect of location and then combined over locations within cultivar groups (groups A, B, and C). For each agronomic characteristic the adjusted value of each cultivar-location combination was calculated from the observed value at a given location multiplied by the ratio of the mean value of check cultivars over all locations to the mean value of check cultivars at a given location. A check cultivar was defined as any cultivar that was present in almost all trials of a group. It could be missing from up to 2 experiments.

The adjusted values have had the effect of environment (as measured by the check cultivars) removed. Consequently, the mean of the adjusted values of the checks at each location will be the same as the mean of the check cultivars over all locations. The adjusted values were used to

- give equal weight to each location in determining the relative performance of cultivars over all locations
- permit the comparison of cultivar means where the cultivars are grown at a different number of locations
- determine the relative stability of the performance of a cultivar over a wide range of environments.

The standard deviation of the adjusted values of a cultivar at all locations is a measure of the interaction of a cultivar with location because the effect of location has been removed. Variation in the adjusted values of a cultivar is due to its failure to perform the same (in relation to the checks) at all locations. The magnitude of the standard deviations for the various characters varies widely because they reflect the units of measurement. To make comparisons between cultivars easier, a stability index was calculated as the ratio of the standard deviation of the adjusted values of a cultivar over all locations to the mean standard deviation of all cultivars over all locations. Hence, the average stability index of all cultivars equals 1.

The influence of latitude, altitude, and environment (as measured by the average mean yield of the checks) on the relative performance of cultivars in terms of adjusted yield, days to flowering, and days to maturity was determined

through multiple regression. The partial regression coefficients of the adjusted values for yield, days to flower, and days to maturity on the independent factors are a measure of the interaction of the cultivar in question with the independent factor. In other words, a partial regression coefficient exists because the cultivar in question did not respond the same as the checks did on average. Multiple regression equations were calculated separately for groups A, B, and C. To further explore the results of the multiple regression analysis, the association between the partial regression coefficients and average days to maturity was calculated. This correlation measures the level of association of the cultivar characterization by days to maturity with the interaction of checks and cultivars given by the partial regression coefficients.

RESULTS AND DISCUSSION

Summary mean values for parameters observed in experiments and stability of cultivars during 1982 are presented in Tables 5 and 6. The data in Table 5 summarize the performance characteristics of the 39 cultivars which were included in 8 or more trials. Data for a cultivar included in more than one group are presented on consecutive lines. In this manner, all information on a cultivar is at one location. Days to maturity is the most important characteristic in determining where a cultivar can be grown successfully. For this reason, the cultivars have been placed in the order of their maturity from latest to earliest. When comparing cultivars, only data from within a group should be used.

Table 5. Performance characteristics^a of soybean cultivars

| Cultivar | Group ^b | Yield (kg/ha) | Days to flower | Days to maturity | Plant height (cm) | Lodging ^c | Shat- tering ^d | Pod height (cm) | Weight per 100 seeds (g) | Seed quality ^e | Percent germ. |
|------------------|--------------------|------------------|-------------------|---------------------|-------------------------|----------------------|------------------------------|-----------------------|--------------------------------|------------------------------|------------------|
| ICA L-125 | A | 1,615 | 44.3 | 118.1 | 85.4 | 2.0 | 1.1 | 14.3 | 12.9 | 2.6 | 71.3 |
| IGH 24 | A | 1,712 | 49.9 | 116.7 | 73.5 | 1.7 | 1.0 | 14.6 | 14.4 | 2.3 | 70.8 |
| IGH 23 | A | 1,608 | 49.0 | 114.3 | 72.4 | 2.0 | 1.2 | 15.7 | 16.0 | 2.4 | 87.3 |
| ICA L-109 | A | 1,682 | 48.3 | 113.1 | 69.8 | 1.9 | 1.1 | 12.1 | 11.4 | 2.1 | 72.0 |
| Jupiter | A | 1,761 | 49.0 | 111.3 | 66.4 | 1.8 | 1.1 | 13.6 | 16.5 | 2.4 | 67.5 |
| Jupiter | B | 1,318 | 69.2 | 139.7 | 94.0 | 2.7 | 1.3 | 16.0 | 15.9 | 2.7 | 65.9 |
| 71-38 | A | 1,741 | 41.6 | 108.9 | 43.8 | 1.3 | 1.2 | 9.4 | 11.7 | 2.4 | 89.7 |
| SIATSA 194 | A | 2,009 | 44.3 | 108.7 | 84.6 | 2.4 | 1.4 | 15.7 | 18.4 | 2.3 | 73.8 |
| SIATSA 194 | B | 1,342 | 63.2 | 138.1 | 113.6 | 2.6 | 1.3 | 15.2 | 17.3 | 2.8 | 75.6 |
| Alamo | A | 1,812 | 46.3 | 108.4 | 54.4 | 1.8 | 1.1 | 11.2 | 14.4 | 2.2 | 74.1 |
| Alamo | B | 1,406 | 65.2 | 137.1 | 73.5 | 2.5 | 1.3 | 13.6 | 14.1 | 2.5 | 68.9 |
| ISRA/IRAT 44A/73 | A | 1,744 | 44.8 | 107.4 | 60.1 | 2.0 | 1.3 | 11.7 | 13.0 | 2.3 | 109.0 |
| UFV-1 | A | 1,965 | 40.2 | 107.1 | 45.8 | 1.3 | 1.1 | 9.7 | 15.0 | 2.0 | 85.6 |
| Ecuador 2 | A | 1,875 | 41.0 | 107.1 | 54.9 | 1.3 | 1.1 | 11.9 | 15.6 | 2.2 | 66.3 |
| ICA L-124 | A | 1,940 | 37.3 | 104.2 | 54.0 | 1.9 | 1.1 | 11.2 | 18.9 | 2.3 | 70.5 |
| ICA L-124 | B | 1,681 | 49.4 | 127.7 | 72.1 | 2.1 | 1.0 | 11.0 | 18.8 | 2.6 | 81.5 |
| Improved Pelican | A | 1,805 | 39.3 | 101.2 | 72.9 | 1.9 | 1.1 | 12.4 | 13.6 | 2.1 | 77.3 |
| Davis | A | 1,885 | 34.6 | 98.7 | 36.4 | 1.2 | 1.2 | 7.9 | 17.4 | 2.1 | 70.9 |
| Davis | B | 1,971 | 47.9 | 118.1 | 53.4 | 1.6 | 1.0 | 9.0 | 17.1 | 2.3 | 75.1 |
| Bossier | A | 1,649 | 30.7 | 98.7 | 34.8 | 1.3 | 1.1 | 6.7 | 16.9 | 2.6 | 63.6 |
| Bossier | B | 1,621 | 43.9 | 118.0 | 45.3 | 1.7 | 1.1 | 8.2 | 17.2 | 2.6 | 82.7 |
| Foster | A | 1,511 | 29.7 | 92.5 | 33.2 | 1.2 | 1.1 | 7.3 | 15.5 | 2.7 | 63.1 |
| Foster | B | 1,739 | 44.5 | 116.2 | 47.4 | 1.6 | 1.0 | 9.2 | 15.5 | 2.6 | 70.2 |
| Williams 82 | A | 1,732 | 29.8 | 91.0 | 44.0 | 1.3 | 1.2 | 8.2 | 18.4 | 2.6 | 66.6 |
| Williams 82 | B | 1,870 | 37.6 | 104.3 | 51.4 | 1.4 | 1.0 | 7.9 | 17.4 | 2.4 | 67.3 |
| Williams 82 | C | 2,604 | 44.9 | 112.8 | 85.5 | 1.7 | 1.2 | 12.2 | 17.8 | 2.4 | 84.6 |
| G 2120 | B | 1,186 | 71.8 | 135.8 | 114.5 | 3.3 | 1.7 | 15.3 | 8.5 | 2.8 | 76.8 |
| Ecuador 1 | B | 1,541 | 62.0 | 134.5 | 79.5 | 2.2 | 1.0 | 12.9 | 16.8 | 2.6 | 68.5 |

Continued

Table 5. Performance characteristics^a of soybean cultivars, continued

| Cultivar | Group ^b | Yield (kg/ha) | Days to flower | Days to maturity | Plant height (cm) | Lodging ^c | Shattering ^d | Pod height (cm) | Weight per 100 seeds (g) | Seed quality ^e | Percent germ. |
|------------|--------------------|---------------|----------------|------------------|-------------------|----------------------|-------------------------|-----------------|--------------------------|---------------------------|---------------|
| HM-1 | B | 1,813 | 53.1 | 128.0 | 67.6 | 2.1 | 1.1 | 12.3 | 18.5 | 2.3 | 76.1 |
| PK-73-94 | B | 1,984 | 48.5 | 123.1 | 55.5 | 1.6 | 1.3 | 10.2 | 15.4 | 2.3 | 74.3 |
| PK-73-86 | B | 2,100 | 49.4 | 122.4 | 61.6 | 1.9 | 1.3 | 11.5 | 15.3 | 2.3 | 85.8 |
| CEP 7717 | B | 1,882 | 53.5 | 118.8 | 64.5 | 2.2 | 1.1 | 11.6 | 14.0 | 2.4 | 86.1 |
| Braxton | B | 1,649 | 45.4 | 118.7 | 52.6 | 1.4 | 1.0 | 9.6 | 18.7 | 2.6 | 74.7 |
| Essex | B | 1,906 | 43.2 | 115.2 | 44.6 | 1.6 | 1.2 | 8.6 | 15.7 | 3.0 | 68.0 |
| Essex | C | 3,162 | 64.5 | 128.7 | 90.7 | 1.9 | 1.1 | 16.0 | 16.2 | 2.1 | 91.4 |
| Crawford | B | 1,907 | 40.5 | 107.1 | 58.2 | 1.4 | 1.1 | 8.1 | 16.6 | 2.7 | 68.2 |
| Crawford | C | 2,620 | 54.5 | 119.2 | 100.9 | 2.0 | 1.1 | 15.5 | 17.2 | 2.6 | 91.3 |
| Kent | C | 2,642 | 50.0 | 118.2 | 92.5 | 1.8 | 1.2 | 14.9 | 18.7 | 2.5 | 88.9 |
| Sparks | C | 2,530 | 44.1 | 117.0 | 96.5 | 2.1 | 1.2 | 14.1 | 18.3 | 3.1 | 79.5 |
| Pixie | C | 2,426 | 48.3 | 115.1 | 53.7 | 1.3 | 1.2 | 10.0 | 17.9 | 2.7 | 95.3 |
| Pella | C | 2,558 | 41.5 | 112.4 | 83.9 | 1.7 | 1.2 | 13.0 | 19.8 | 3.2 | 77.1 |
| Fayette | C | 2,618 | 45.2 | 112.2 | 91.2 | 1.8 | 1.2 | 13.1 | 17.1 | 2.6 | 82.4 |
| Century | C | 2,485 | 38.9 | 109.6 | 75.6 | 1.7 | 1.3 | 12.4 | 17.7 | 3.0 | 81.2 |
| Amcor | C | 2,648 | 39.4 | 108.3 | 79.0 | 1.8 | 1.2 | 11.2 | 17.3 | 2.9 | 83.0 |
| Corsoy 79 | C | 2,408 | 39.6 | 108.0 | 72.1 | 1.7 | 1.2 | 10.1 | 16.4 | 3.1 | 79.3 |
| Hardin | C | 2,251 | 38.4 | 106.7 | 70.6 | 1.6 | 1.1 | 10.1 | 16.2 | 2.9 | 74.1 |
| Lakota | C | 2,430 | 38.1 | 103.0 | 81.7 | 1.9 | 1.2 | 11.1 | 15.9 | 2.8 | 71.5 |
| Hodgson 78 | C | 1,972 | 36.1 | 102.4 | 66.7 | 1.6 | 1.2 | 9.9 | 17.1 | 2.8 | 77.0 |
| Evans | C | 2,021 | 36.9 | 99.5 | 57.8 | 1.3 | 1.2 | 9.5 | 15.6 | 2.7 | 68.2 |
| Clay | C | 1,820 | 36.2 | 98.4 | 49.0 | 1.4 | 1.3 | 8.8 | 16.7 | 2.9 | 64.5 |

^aPerformance characteristic values given are the mean of adjusted values (y) where:

y = observed value × (mean of checks over all locations/mean of checks at given location)

^bGroup A was sent to tropical, B to semitropical, and C to temperate zones. Comparisons should be made only within each group.

^cEstimated rate of lodged or down plants on a scale of 1 (all erect) to 5 (all down) as observed at maturity.

^dEstimated rate of the amount of shattering of seeds from pods at maturity on a scale of 1 (no shattering) to 5 (more than 50% shattered).

^eEstimated rating of seed quality after harvest considering the amount of wrinkling, defective seed coats, off-colored seed, and moldy or rotten seed on a scale of 1 (very good quality) to 5 (very poor quality).

Table 6. Relative stability of cultivars

| Cultivar | Group ^a | Yield (kg/ha) | Days to flower | Days to maturity | Plant height (cm) | Lodging | Shattering | Pod height (cm) | Weight per 100 seeds (g) | Seed quality | Percent germ. |
|------------|--------------------|---------------|----------------|------------------|-------------------|---------|------------|-----------------|--------------------------|--------------|---------------|
| L-125 | A | .90 | 1.76 | 1.64 | 1.91 | 1.46 | 1.13 | 1.51 | 1.28 | 1.42 | .85 |
| IGH 24 | A | .58 | .86 | .59 | .43 | .45 | .66 | .57 | .64 | .67 | .56 |
| IGH 23 | A | .58 | .59 | .62 | .31 | .51 | 1.05 | .90 | .74 | .52 | 1.35 |
| ICA L-109 | A | .65 | .96 | .98 | .57 | 1.17 | .74 | .76 | .94 | .71 | .63 |
| Jupiter | A | .40 | .70 | .36 | .34 | .62 | .50 | .52 | .66 | .53 | .52 |
| Jupiter | B | .71 | 1.46 | .81 | 1.30 | 1.18 | .97 | .96 | .60 | .87 | .59 |
| 71-38 | A | 1.16 | 1.24 | .99 | .63 | .82 | 1.53 | 1.05 | 1.07 | 1.10 | 3.62 |
| SIATSA 194 | A | 1.36 | .80 | 1.44 | 2.42 | 2.23 | 2.14 | 1.49 | 1.06 | .89 | .63 |
| SIATSA 194 | B | .98 | .81 | 1.64 | 2.74 | 1.56 | 1.08 | 1.19 | 1.03 | 1.10 | 1.39 |

Continued

Table 6. Relative stability of cultivars, continued

| Cultivar | Group ^a | Yield (kg/ha) | Days to flower | Days to maturity | Plant height (cm) | Lodging | Shat- tering | Pod height (cm) | Weight per 100 seeds (g) | Seed quality | Percent germ. |
|------------------|--------------------|------------------|-------------------|---------------------|-------------------------|---------|-----------------|-----------------------|--------------------------------|-----------------|------------------|
| Alamo | A | .95 | .76 | .89 | 1.41 | 1.05 | .92 | .90 | .81 | .74 | .74 |
| Alamo | B | .61 | .67 | .74 | .61 | 1.02 | .51 | .69 | .94 | .63 | 1.11 |
| ISRA/IRAT 44A/73 | A | 1.13 | .73 | .92 | 1.66 | 1.56 | 1.72 | 1.12 | .93 | .97 | 3.45 |
| UFV-1 | A | 1.17 | 1.44 | .86 | 1.04 | .74 | .43 | .85 | 1.17 | .81 | 1.28 |
| Ecuador 2 | A | 1.38 | .79 | .88 | 1.02 | .62 | .43 | 1.38 | .76 | 1.10 | .44 |
| ICA L-124 | A | 1.27 | .82 | 1.17 | .40 | 1.20 | .47 | .62 | 1.17 | .95 | .49 |
| ICA L-124 | B | .89 | 1.16 | 1.78 | .79 | .99 | .79 | .84 | .95 | .55 | 1.18 |
| Improved Pelican | A | 1.22 | 1.08 | 1.27 | 1.79 | 1.26 | .86 | 1.00 | 1.08 | .94 | .38 |
| Davis | A | .93 | 1.16 | 1.04 | .54 | .80 | 1.12 | 1.00 | .90 | .98 | .30 |
| Davis | B | .54 | .56 | .66 | .82 | .82 | .66 | .68 | .71 | .96 | 1.01 |
| Bossier | A | .81 | 1.06 | 1.21 | .80 | .80 | .70 | 1.09 | 1.30 | 1.56 | .69 |
| Bossier | B | .75 | .99 | .76 | .74 | .53 | .28 | .92 | .73 | 1.43 | 1.23 |
| Foster | A | .82 | .94 | 1.11 | 1.01 | .76 | .98 | .85 | 1.06 | 1.63 | .56 |
| Foster | B | .69 | 1.18 | .93 | .79 | .66 | .65 | .86 | .94 | .75 | .67 |
| Williams 82 | A | 1.69 | 1.31 | 1.03 | .72 | .97 | 1.60 | 1.38 | 1.44 | 1.48 | .53 |
| Williams 82 | B | 1.54 | 1.76 | 1.66 | .95 | .92 | .84 | 1.12 | 1.06 | 1.06 | 1.37 |
| Williams 82 | C | 1.02 | .56 | .83 | 1.45 | .74 | .66 | .76 | 1.43 | .99 | .83 |
| G 2120 | B | .76 | 1.92 | 1.54 | 2.83 | 2.47 | 3.09 | 2.02 | 1.13 | 1.81 | .75 |
| Ecuador 1 | B | .77 | 1.00 | .75 | 1.20 | 1.08 | .67 | 1.42 | 1.22 | .82 | 1.49 |
| HM-1 | B | 2.05 | 1.14 | 1.21 | .55 | .86 | .90 | 1.61 | .62 | .78 | 1.38 |
| PK-73-94 | B | 1.53 | .83 | .83 | .63 | .64 | 1.21 | .74 | 1.01 | .81 | 1.16 |
| PK-73-86 | B | 1.79 | .69 | .69 | .82 | .78 | 1.44 | .73 | 1.10 | .94 | 1.26 |
| CEP 7717 | B | 1.18 | 1.01 | .61 | .84 | .98 | .80 | .59 | .54 | .97 | 1.36 |
| Braxton | B | .78 | 1.11 | .81 | .89 | .72 | .66 | .90 | 1.73 | .84 | 1.23 |
| Essex | B | 1.24 | 1.49 | 1.05 | .93 | 1.09 | .94 | .76 | 1.25 | 1.41 | .69 |
| Essex | C | 1.25 | 2.03 | 2.43 | 1.51 | 1.31 | 1.00 | 1.75 | 1.32 | .93 | 1.31 |
| Crawford | B | .83 | 1.50 | 1.28 | .59 | .85 | .29 | .76 | 1.00 | 1.21 | .76 |
| Crawford | C | 1.16 | 1.31 | .87 | 1.15 | 1.05 | .63 | .81 | 1.06 | 1.41 | .95 |
| Kent | C | .51 | .83 | .86 | .59 | .65 | .72 | .97 | .68 | .52 | .97 |
| Sparks | C | 1.10 | 1.26 | .68 | .97 | 1.93 | .94 | 1.21 | 1.50 | 1.24 | 1.04 |
| Pixie | C | 1.08 | .83 | .91 | 1.29 | 1.24 | 1.30 | .90 | 1.36 | .89 | 1.58 |
| Pella | C | 1.16 | .66 | .83 | 1.01 | 1.05 | 1.61 | 1.07 | 1.51 | 1.32 | .73 |
| Fayette | C | 1.08 | .44 | .78 | .98 | 1.03 | 1.10 | .78 | 1.33 | 1.37 | .85 |
| Century | C | .70 | .75 | .98 | .72 | 1.07 | 1.86 | 1.08 | 1.05 | .90 | 1.17 |
| Amcor | C | .83 | .99 | 1.10 | 1.38 | .90 | .56 | .83 | .70 | .87 | .69 |
| Corsoy 79 | C | .87 | 1.01 | .94 | .83 | .54 | .69 | .66 | .85 | .87 | .66 |
| Hardin | C | 1.06 | .72 | 1.03 | .99 | .65 | .86 | .90 | .65 | .94 | 1.11 |
| Lakota | C | 1.52 | .68 | 1.25 | 1.04 | 1.24 | 1.02 | .87 | .63 | 1.25 | 1.31 |
| Hodgson 78 | C | .79 | .74 | .86 | .86 | 1.15 | 1.13 | 1.02 | .71 | 1.08 | .93 |
| Evans | C | .72 | 1.33 | 1.17 | .67 | 1.01 | 1.45 | 1.17 | .86 | .71 | 1.23 |
| Clay | C | .84 | .81 | 1.30 | 1.19 | 1.06 | 1.09 | 1.22 | 1.18 | .95 | 1.16 |

Note: The relative stability index is x/y where:

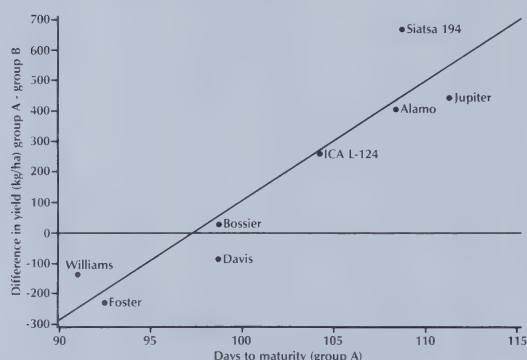
x = the standard deviation of the adjusted values of a cultivar over all locations within a group, and

y = the average standard deviation of all cultivars over all locations within a group.

^aGroup A was sent to tropical, B to semitropical, and C to temperate zones. Comparisons should be made only within each group.

Eight cultivars were included in both group A (tropical) and group B (subtropical) trials. The mean adjusted yield of the cultivars in group A (1,787 kg/ha) was somewhat higher than that of group B (1,618 kg/ha). The difference was +169 kg/ha. Within a cultivar the difference was related to relative maturity. Figure 2 shows the difference in the yield of cultivars in the tropics (group A) and in the subtropics (group B). The yields of the later maturing cultivars were reduced much more when moved from the tropics to the subtropics than were those of the earlier maturing cultivars. The earlier maturing cultivars performed about as well in the tropics as in the subtropics.

Figure 2. The difference in yield between the tropic (group A) and subtropic (group B) cultivars with varying number of days to maturity.



The difference in days to flower was pronounced, 37.7 days in group A and 52.6 days in group B. The difference in days to maturity was still greater, 101.7 days in group A and 124.9 days in group B. The plants in group A were shorter (51.0 cm) than those in group B (68.8 cm). Average seed weight was greater in group A (17.0 g/100 seed) than in group B (16.7 g/100 seed).

A set of three cultivar combinations was included in both group B (subtropical) and group C (temperate), and hence, similar comparisons can be made, but the number is too small to make meaningful comparisons, especially in yield. The mean yield at the group B locations was substantially lower (1,894.3 kg/ha) than at the group C locations (2,795.33 kg/ha). Group B flowered in 40.4 days while group C did not flower until 54.6 days. A similar difference occurred between the

two groups in days to maturity. Group B matured in 108.9 days and group C matured in 120.2 days. The difference in height was rather large. Group B plants averaged 51.4 cm while group C plants averaged 92.4 cm. Seed weight in group B (16.6 g/100 seed) was somewhat less than in group C (17.1 g/100 seed). The results from these trials are very similar to those found in the 1980-1981 ISVEX trials.

The data from these trials indicate that the yield potential of soybeans may be somewhat lower in the tropics and subtropics than in the temperate regions. Soybeans take the shortest time to flower and mature near the equator and the time increases with distance from the equator. Weight per seed was greater in the tropics than in the subtropics and smaller in the subtropics than in the temperate zone.

In addition to the average performance of a cultivar, it is important to know if its relative performance is consistent in relation to other cultivars or if it varies widely from one location to another. The standard deviation of the adjusted value for a cultivar across all trials in a group is a measure of consistency because it measures deviations from the average of the check cultivars. If the standard deviation is large, the relative performance of a cultivar varies widely from one location to another. A stability index has been calculated (Table 6) to put all characteristics on the same scale. It is only valid to compare indices within groups.

It is of particular interest to consider the stability indices of the highest yielding cultivars in each group. In group A, Siatsa 194 had the highest average yield (2,040 kg/ha), followed by ICA L-124 (1,976 kg/ha) and UFV-1 (1,974 kg/ha). Siatsa 194 had a large cultivar x location interaction for yield, plant height, lodging, shattering, and height to the first pod. ICA-124 had a large cultivar x location interaction in yield and lodging, but was relatively stable in the other characteristics. UFV-1 was relatively unstable in yield and days to maturity but stable in the other characteristics. In group B, Davis had the highest average yield (1,845 kg/ha) followed by PK-73-94 (1,827 kg/ha) and Essex (1,790 kg/ha). Davis was stable in all characteristics. PK-73-94 was also very stable in all characteristics except shattering. Essex, on the other hand, was relatively unstable in yield, days to maturity, and seed quality. In group C, Essex had

the highest average yield (3,162 kg/ha), followed by Amcor (2,648 kg/ha), and Kent (2,642 kg/ha). Essex was unstable, particularly in days to flowering, days to maturity, plant height, pod height, lodging, and seed weight. Amcor was stable in all characteristics except plant height. Kent was very stable in most characteristics.

The correlations between agronomic characters were calculated in each experiment. These are not shown, but the results have been summarized. Table 7 has been prepared to show the frequency

of positive and negative correlations for each combination of characters. If the ratio between the two values is between 0.5 and 2.0, there is little indication that the two characters tend to be associated, positively or negatively. In other words, this subjective criterion indicates an association whenever there are more than twice as many positive to negative or negative to positive values. Yield was positively associated with number of plants harvested and seed weight, and negatively associated with seed quality. Days to maturity, pod

Table 7. Number of positive and negative correlations among adjusted values of plant characteristics of cultivars within locations. The value in the upper left-hand side of an intersect is the number of positive correlations and the number in the lower right-hand side is the number of negative correlations. The values in the lower left-hand side of the table are for 1982 and those in the upper right-hand side of the table are the sum of the positive and negative correlations for 1979, 1980, and 1981.

| 1901. | | Yield | Days to flower | Days to maturity | Plant height | Lodging | Shattering | Plants harvested | Pod height | Weight per 100 seeds | Seed quality |
|----------------------|----|-------|----------------|------------------|--------------|---------|------------|------------------|------------|----------------------|--------------|
| | | | | | | | | | | | |
| Yield | | 124 | 133 | 153 | 96 | 51 | 175 | 134 | 190 | 48 | |
| | | 117 | 109 | 99 | 111 | 101 | 51 | 93 | 51 | 164 | |
| Days to flower | 34 | | 220 | 228 | 178 | 68 | 65 | 192 | 38 | 89 | |
| | 39 | | 11 | 7 | 23 | 65 | 155 | 18 | 167 | 91 | |
| Days to maturity | 38 | 65 | | 207 | 162 | 66 | 45 | 188 | 82 | 115 | |
| | 34 | 6 | | 14 | 35 | 75 | 167 | 28 | 143 | 94 | |
| Plant height | 45 | 68 | 71 | | 197 | 85 | 117 | 204 | 49 | 110 | |
| | 29 | 5 | 2 | | 11 | 65 | 93 | 7 | 190 | 102 | |
| Lodging | 31 | 53 | 53 | 60 | | | 112 | 168 | 46 | 99 | |
| | 31 | 8 | 8 | 3 | | 56 | 91 | 24 | 158 | 87 | |
| Shattering | 17 | 17 | 23 | 25 | 25 | | 86 | 78 | 60 | 76 | |
| | 20 | 19 | 13 | 13 | 9 | | 61 | 65 | 84 | 61 | |
| Plants harvested | 52 | 23 | 31 | 35 | 26 | 22 | | 132 | 103 | 91 | |
| | 22 | 50 | 42 | 40 | 37 | 16 | | 129 | 123 | 108 | |
| Pod height | 35 | 62 | 62 | 68 | 52 | 22 | 36 | | 49 | 83 | |
| | 34 | 6 | 6 | 2 | 6 | 13 | 34 | | 163 | 114 | |
| Weight per 100 seeds | 64 | 18 | 33 | 34 | 29 | 20 | 40 | 38 | | 109 | |
| | 8 | 53 | 38 | 39 | 32 | 16 | 33 | 30 | | 99 | |
| Seed quality | 16 | 27 | 33 | 31 | 34 | 24 | 31 | 32 | 41 | | |
| | 48 | 36 | 30 | 34 | 20 | 11 | 34 | 29 | 24 | | |

height, lodging, and seed size were all positively correlated. These characteristics were not correlated with seed size or plants harvested. There were no associations among plants harvested, pod height, seed weight, and seed quality. The correlations among plant characteristics in the trials are a description of the association of characters in existing cultivars. This does not necessarily indicate that observed associations cannot be broken by plant breeders as they develop cultivars with desired combinations of characters.

The differential responses of cultivars to latitude, altitude, and general yield level were determined by calculating the multiple regression of adjusted yield, days to flowering, and days to maturity on these independent variables. The partial regression coefficients are given in Table 8. Because days to maturity is the most distinctive difference between cultivars, the cultivars within each group have been ranked according to maturity. The average adjusted days to maturity are given. The correlation between each set of partial

regression coefficients and days to maturity is given at the bottom of each column.

The correlations between partial regression coefficients for yield on degrees latitude and adjusted days to maturity were group A, $-.682^{**}$; group B, $-.576^{*}$; and group C, $-.421$. The negative correlations indicate that the relative yield of late cultivars was lower with increasing distance from the equator. The influence of altitude on the relative yield of late maturing cultivars was not apparent in the tropics, but there was a highly significant reduction in relative yield of late maturing cultivars at higher altitudes in the subtropical regions. The late maturing cultivars in the tropics ranked relatively higher where the environment was favorable (sites with high average yields).

The days to flowering of the late maturing cultivars was delayed more with increases in altitude and latitude than were the earlier maturing cultivars. The influence of these on days to maturity was not clear.

Table 8. Multiple regression coefficients indicating the influence of latitude, altitude, and average observed yield at a location on adjusted yield, days to flowering, and days to maturity. Adjusted days to maturity for each cultivar is given. The correlation coefficient (r) between days to maturity and the coefficients of each column is given in the bottom line.

| Cultivar | Adjusted yield (kg/ha) | | | Adjusted days to flowering | | | Adjusted days to maturity | | | Adjusted days to maturity |
|------------------|------------------------|--------------------|-----------------------------|----------------------------|--------------------|-----------------------------|---------------------------|--------------------|-----------------------------|---------------------------|
| | Altitude (meters) | Latitude (degrees) | Observed mean yield (kg/ha) | Altitude (meters) | Latitude (degrees) | Observed mean yield (kg/ha) | Altitude (meters) | Latitude (degrees) | Observed mean yield (kg/ha) | |
| | | | | | | | | | | |
| GROUP A | | | | | | | | | | |
| | $\times 10^{-2}$ | $\times 10^0$ | $\times 10^{-2}$ | $\times 10^{-3}$ | $\times 10^{-1}$ | $\times 10^{-3}$ | $\times 10^{-3}$ | $\times 10^{-2}$ | $\times 10^{-4}$ | |
| ICA L-125 | 9.45 | -2.02 | -4.31 | -3.69* | 1.94* | -0.89 | -8.16** | -62.94** | 16.51 | 117.8 |
| IGH 24 | -4.82 | -16.37* | 6.73 | 2.31* | -0.59 | 1.34** | 3.55* | 7.95 | -16.09* | 116.5 |
| IGH 23 | -7.44 | -12.06 | 4.83 | 0.10 | 0.67 | 0.00 | 2.50 | 12.12 | -12.10 | 113.7 |
| ICA L-109 | -5.15 | -3.99 | 1.68 | 3.28** | 0.81 | -0.68 | 2.64 | 7.57 | 15.81 | 112.6 |
| Jupiter | 24.00 | -3.70 | 2.31 | 0.19 | 0.17 | -0.72 | -1.25 | 2.76 | -0.23 | 111.1 |
| 71-38 | -20.11 | 16.46 | -17.92 | -2.32 | 2.21** | -1.35* | -7.67** | -9.41 | -0.72 | 108.8 |
| Alamo | -3.98 | 25.51* | -9.28 | -0.79 | 1.33** | 1.13** | 1.12 | -11.22 | 6.95 | 107.6 |
| SIATSA 194 | -5.81 | 19.30 | -16.26 | -1.42 | 0.76 | -1.14** | 1.94 | 2.95 | -26.47 | 107.3 |
| UFV-1 | -9.76 | 22.05 | -10.86 | -0.86 | 3.04* | -1.60 | -0.45 | 4.50 | 7.19 | 106.8 |
| ISRA/IRAT 44A/73 | -0.08 | 11.49 | -2.35 | -1.06 | 1.04* | -1.11** | -1.69 | -9.89 | -4.44 | 106.7 |
| Ecuador 2 | -12.15 | 20.98 | -3.84 | -3.34** | 0.88* | -1.16** | -2.93 | -10.19 | 7.29 | 106.7 |
| ICA L-124 | 1.15 | 17.70 | -16.85 | -3.55** | -0.07 | -0.63 | -3.92 | 1.09 | 0.29 | 103.0 |
| Improved Pelican | 12.28 | 24.13 | -19.78 | -2.97* | 0.18 | -1.65** | 0.22 | 11.49 | -5.71 | 100.2 |
| Davis | -8.96 | 28.12** | -14.91 | -2.72 | -0.13 | -0.47 | -1.56 | -27.69* | 23.20* | 99.2 |
| Bossier | 62.25* | 33.26* | -8.67 | -5.83** | -0.03 | -1.34* | -3.95 | -17.26 | 53.05** | 98.6 |
| Foster | -16.52 | 5.69 | -20.53 | -4.60** | -1.24* | -1.28** | -4.92 | 14.04 | -13.42 | 92.7 |
| Williams 82 | -51.50 | 29.30 | -44.86** | -7.26** | -1.56* | -1.02 | -7.96** | -16.49 | -7.72 | 90.7 |
| <i>r</i> | 0.18929 | -0.69627* | 0.81075** | 0.74549** | 0.56938 | 0.42717 | 0.39631 | -0.10840 | -0.08830 | |

Continued

Table 8. Multiple regression coefficients indicating the influence of latitude, altitude, and average observed yield at a location on adjusted yield, days to flowering, and days to maturity. Adjusted days to maturity for each cultivar is given. The correlation coefficient (*r*) between days to maturity and the coefficients of each column is given in the bottom line, continued.

| Cultivar | Adjusted yield (kg/ha) | | | Adjusted days to flowering | | | Adjusted days to maturity | | | Adjusted days to maturity |
|-------------|------------------------|--------------------|-----------------------------|----------------------------|--------------------|-----------------------------|---------------------------|--------------------|-----------------------------|---------------------------|
| | Altitude (meters) | Latitude (degrees) | Observed mean yield (kg/ha) | Altitude (meters) | Latitude (degrees) | Observed mean yield (kg/ha) | Altitude (meters) | Latitude (degrees) | Observed mean yield (kg/ha) | |
| GROUP B | | | | | | | | | | |
| | $\times 10^{-2}$ | $\times 10^0$ | $\times 10^{-2}$ | $\times 10^{-3}$ | $\times 10^{-1}$ | $\times 10^{-3}$ | $\times 10^{-3}$ | $\times 10^{-2}$ | $\times 10^{-4}$ | |
| Jupiter | -34.52 | -12.93 | -5.81 | 6.94** | -1.77 | 1.11 | 0.77 | -29.86 | -8.20 | 142.70 |
| G 2120 | -10.11 | 0.90 | -11.43 | -0.46 | -5.25** | -1.52 | 2.01 | -22.76 | -47.77 | 140.00 |
| Alamo | -7.11 | 0.86 | 8.36 | -0.58 | -0.26 | 1.03 | -1.29 | -7.57 | -38.90* | 140.00 |
| SIATSA 194 | -33.03 | -6.50 | -5.53 | 1.98 | 0.33 | 1.24 | -2.21 | -20.93 | -72.30 | 139.30 |
| Ecuador 1 | 2.81 | -2.32 | -8.87 | 0.12 | 0.55 | -0.03 | -6.12* | -30.13* | -1.54 | 138.30 |
| HM-1 | -9.43 | 4.91 | -47.18 | -8.15 | -3.99 | 2.57 | -0.25 | 13.56 | 14.76 | 132.10 |
| ICA L-124 | 6.90 | 1.98 | -16.76 | -1.44 | -0.24 | -4.81** | -9.41 | -70.60* | -75.61 | 128.10 |
| PK-73-94 | 7.18 | 10.51 | -40.36 | -2.25 | 1.75* | 0.14 | -7.07* | -16.41 | 26.17 | 126.90 |
| PK-73-86 | -38.45 | -16.09 | -51.71* | 0.80 | 1.83* | -0.53 | -2.51 | 7.60 | 46.46** | 126.20 |
| Davis | 19.84 | 11.20 | -20.28* | -1.00 | 0.54 | -1.51* | 1.09 | 25.54 | 21.51 | 122.40 |
| CEP 7717 | -2.25 | 19.60 | -46.28** | -1.50 | -1.80 | 0.36 | -4.20 | -30.03* | -5.46 | 122.00 |
| Braxton | 17.59 | 11.82 | 5.74 | -2.70 | 2.20* | -3.42** | -6.09* | -0.11 | -2.03 | 122.00 |
| Bossier | 1.92 | 25.10 | 1.09 | -3.01 | 2.54* | -1.87* | -7.06** | 6.33 | 27.10 | 121.50 |
| Foster | 11.49 | -2.43 | 20.40 | -5.29* | 0.83 | -0.82 | 0.91 | 32.65 | 19.73 | 121.00 |
| Essex | 60.65* | 54.27** | -31.80 | -4.45* | 0.38 | -4.74** | -10.00* | -34.61 | -22.70 | 116.30 |
| Crawford | 38.70 | -3.71 | 21.78 | -17.20** | -7.70** | -6.84** | -31.57** | -169.20** | -45.69 | 106.70 |
| Williams 82 | 15.68 | 28.37 | -54.54** | -8.41** | -2.30* | -6.20** | -11.52** | -49.99* | -60.71* | 104.80 |
| r | -0.68995* | -0.53046 | 0.13752 | 0.75588** | 0.12305 | 0.76954** | 0.66409* | 0.36451 | -0.01990 | |
| GROUP C | | | | | | | | | | |
| | $\times 10^{-2}$ | $\times 10^0$ | $\times 10^{-2}$ | $\times 10^{-3}$ | $\times 10^{-1}$ | $\times 10^{-3}$ | $\times 10^{-3}$ | $\times 10^{-2}$ | $\times 10^{-4}$ | |
| Essex | 53.86 | -23.92 | -21.03 | -0.43 | -10.33* | 4.98* | -11.41 | -55.19 | 30.12 | 128.70 |
| Crawford | -20.16 | -52.50 | 9.32 | 2.82 | 4.43* | 1.71 | -5.35 | 1.89 | -11.65 | 119.20 |
| Kent | -32.80 | -16.49 | -4.50 | 4.37 | 3.81 | 2.22 | 2.53 | 1.73 | 14.91 | 118.20 |
| Sparks | 47.19 | 29.78 | 29.25 | -1.97 | -3.38 | 0.74 | 12.47** | 47.05 | 21.22 | 117.00 |
| Pixie | 21.68 | 17.08 | 4.38 | -9.04** | -0.80 | 0.12 | -1.31 | 16.83 | -4.14 | 115.10 |
| Williams 82 | 54.54 | 27.39 | 18.42 | -4.29 | -0.92 | -0.17 | 0.94 | -13.67 | 2.98 | 112.80 |
| Pella | 8.43 | 10.76 | 14.67 | -5.58 | -6.13* | -1.34 | 3.15 | -9.50 | 2.36 | 112.40 |
| Fayette | -7.84 | 9.39 | 11.38 | -6.01* | -2.67 | 0.42 | 1.41 | 0.31 | 3.97 | 112.20 |
| Century | 53.61* | 49.32* | 5.60 | -5.55 | -5.20* | -0.29 | 6.87** | 13.70 | 17.56* | 109.60 |
| Amcor | -3.29 | 57.45** | -8.65 | -9.20** | -5.55* | -1.48 | 7.79* | 33.46 | 21.33 | 108.30 |
| Corsoy 79 | 30.05 | 54.21* | -4.08 | -2.36 | -2.75 | -1.40 | 7.49** | 6.94 | 21.70 | 108.00 |
| Hardin | -42.58 | 31.50 | -21.80 | -5.49 | -1.12 | -2.68 | 5.59** | 17.03 | 16.74* | 106.70 |
| Lakota | -58.69 | -16.08 | -25.89 | -4.43 | -5.37 | -2.26 | 3.36 | 13.85 | 14.67 | 103.00 |
| Hodgson 78 | 34.33 | 54.55** | -7.41 | 1.12 | -0.73 | 0.76 | -2.65 | -36.16 | 6.05 | 102.40 |
| Evans | 22.90 | 14.78 | -0.73 | -4.81 | -5.53 | -2.52 | -0.92 | 24.73 | -16.73 | 99.50 |
| Clay | 0.85 | -0.98 | -16.06 | -4.27 | -7.05* | -3.52 | -0.20 | 13.09 | 13.63 | 98.40 |
| r | 0.23211 | -0.42144 | 0.28332 | 0.34306 | 0.14521 | 0.87202** | -0.30566 | -0.35585 | 0.22270 | |

**p* ≤ 0.05

***p* ≤ 0.01

- The relative yield of late maturing cultivars declined with increased altitude.
- In the subtropical regions, the relative yield of late maturing cultivars declined with increased altitude.
- Days to flowering was delayed more in late maturing cultivars than in early maturing cultivars with increased altitude and latitude.
- In favorable environments (as measured by the average yield level), all cultivars flowered later but the effect was greatest on the late maturing cultivars.

SUMMARY

Forty soybean cultivars were tested in the 1982 International Soybean Variety Evaluation Experiments (ISVEX). The experiment sites were divided into 13 environmental zones which were defined by latitude and altitude. Three sets of cultivars were sent out: group A to the tropics; group B, subtropics; and group C, temperate regions. The performance characteristics: yield, days to flowering, days to maturity, plant height, height to the first pod, seed size, and several other characteristics are presented for all locations and summarized over all the locations where a given cultivar was grown.

The relative stability of the performance of a cultivar over a wide range of environments was determined. It was found that the relative stability estimates for cultivars were quite consistent in different groups.

The association of the various characteristics was studied by calculating the correlation coefficients among the characters measured at each location. Yield was positively correlated with number of plants harvested and seed weight and negatively associated with seed quality. These and other relationships can help plant breeders determine if it may be difficult to get the combination of characters desired in new cultivars.

Days to maturity is one of the most important characteristics in determining whether a cultivar is well adapted at a given location. The association of this characteristic with the response of cultivars to latitude, altitude, and environment (as measured by general yield level) was studied by calculating the correlation coefficients between days to maturity and the partial regressions of each cultivar for yield, days to flower, and days to maturity on altitude, latitude, and the environment. The relative yield of the late maturing cultivars was less with increases in altitude and latitude. Similar relationships were studied for the effect of altitude, latitude, and environment on the response of late maturing cultivars in terms of days to flower and days to maturity.

Cooperators participating in the 1982 ISVEX are listed after the Foreword. A list of abbreviations and acronyms used in this report is given at the end.

Also at the end of this report are two tables of results from 1981. These were not received in time for inclusion in the International Soybean Variety Experiment, Eighth Report of Results 1980-1981 (INTSOY Series number 26) but are included here to complete the report of 1980-1981 results.

Agronomic Characteristics for Individual Sites, 1982

Table 9. Trial 809, 1982

Country: AZORES Latitude: 38°40'N Zone: 7 Group: C
 Region: EUROPE Longitude: 27°13'W Elevation (m): 160
 Site: VINHA BRAVA, TERCEIRA
 Cooperator(s): ANTONIO DA FONSECA CARVAO, MANUEL SILVA F. V., ING. LUIS TADEAU DUHE
 Date planted: April 22, 1982 Date harvested: September 7, 1982
 Fertilizer used (kg/ha): N 25.0, P 26.4, K 24.9

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|--------------------|--------------------|---------------------|---------------------|--------------------|---------------------|-----------------|---------------------|
| 35 | Crawford | 3,634.1 | | 107.5 | 4.0 | | 20.0 | | 70.7 |
| 69 | Essex | 3,563.2 | | 82.0 | 4.3 | | 18.8 | | 38.4 |
| 60 | Kent | 3,450.7 | | 111.8 | 4.0 | | 41.3 | | 55.8 |
| 86 | Fayette | 3,050.6 | | 104.0 | 3.5 | | 17.5 | | 62.6 |
| 74 | Pella | 2,908.9 | | 99.8 | 4.0 | | 25.0 | | 52.4 |
| 72 | Amcor | 2,813.1 | | 100.3 | 4.0 | | 45.0 | | 59.8 |
| 73 | Century | 2,779.7 | | 100.0 | 4.0 | | 38.8 | | 49.8 |
| 89 | Williams 82 | 2,694.3 | | 104.0 | 4.3 | | 12.5 | | 65.3 |
| 84 | Sparks | 2,694.3 | | 105.5 | 4.0 | | 35.0 | | 64.9 |
| 85 | Pixie | 1,844.1 | | 104.0 | 4.3 | | 12.5 | | 42.3 |
| 57 | Corsoy 79 | 1,683.7 | | 100.3 | 3.5 | | 36.3 | | 45.7 |
| 88 | Lakota | 1,548.2 | | 78.5 | 4.0 | | 38.8 | | 51.5 |
| 71 | Hodgson 78 | 1,298.2 | | 92.5 | 4.3 | | 17.5 | | 36.0 |
| 70 | Hardin | 1,212.7 | | 104.0 | 4.3 | | 17.5 | | 32.7 |
| 36 | Evans | 993.9 | | 83.8 | 3.5 | | 50.0 | | 30.8 |
| 87 | Clay | 225.1 | | 79.0 ⁽³⁾ | 4.0 | | 16.3 | | 16.0 ⁽³⁾ |
| Grand mean | | 2,307.2 | | 97.6 | 4.0 | | 27.7 | | 48.9 |
| Standard error of cultivar mean | | 1,123.2 | | 11.5 | 0.2 | | 7.7 | | 16.7 |
| Coefficient of variation (%) | | 48.7 | | 11.8 | 11.7 | | 55.7 | | 34.1 |
| 5% LSD Cultivar means (*****=ns) | | ***** | | ***** | ***** | | 21.9 | | ***** |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 35 | Crawford | 1.3 | 1.8 | 108.8 | 34.5 | 3.1 | 22.8 | 1.0 | |
| 69 | Essex | 1.5 | 1.5 | 75.0 | 38.4 | 2.3 | 18.7 | 3.0 | |
| 60 | Kent | 1.5 | 2.0 | 54.3 | 36.7 | 2.5 | 26.2 | 3.0 | |
| 86 | Fayette | 2.0 | 2.8 | 61.0 | 32.8 | 3.0 | 22.4 | 1.0 | |
| 74 | Pella | 1.3 | 1.3 | 91.0 | 35.7 | 3.7 | 25.5 | 2.0 | |
| 72 | Amcor | 1.5 | 1.8 | 88.3 | 39.5 | 3.4 | 21.0 | 2.5 | |
| 73 | Century | 1.5 | 2.0 | 77.0 | 37.2 | 3.9 | 21.6 | 2.3 | |
| 89 | Williams 82 | 1.3 | 2.0 | 67.3 | 32.5 | 2.6 | 23.0 | 1.0 | |
| 84 | Sparks | 1.5 | 2.3 | 67.3 | 30.0 | 2.7 | 22.4 | 2.3 | |
| 85 | Pixie | 1.5 | 2.8 | 56.3 | 25.8 | 2.8 | 24.9 | 2.8 | |
| 57 | Corsoy 79 | 1.5 | 2.5 | 61.5 | 33.8 | 3.1 | 25.2 | 3.0 | |
| 88 | Lakota | 1.5 | 1.3 | 85.3 | 27.4 | 3.4 | 20.8 | 1.3 | |
| 71 | Hodgson 78 | 2.0 | 2.8 | 71.8 | 24.7 | 3.2 | 24.4 | 3.0 | |
| 70 | Hardin | 1.5 | 1.8 | 69.5 | 26.4 | 2.5 | 22.8 | 3.5 | |
| 36 | Evans | 1.0 | 1.8 | 80.3 | 24.7 | 3.8 | 23.8 | 3.3 | |
| 87 | Clay | 1.7 ⁽³⁾ | 2.0 ⁽³⁾ | 63.3 ⁽³⁾ | 14.4 ⁽³⁾ | 3.6 ⁽³⁾ | 23.4 ⁽³⁾ | 4.7 | |
| Grand mean | | 1.5 | 2.0 | 73.8 | 31.2 | 3.1 | 23.0 | 2.4 | |
| Standard error of cultivar mean | | 0.5 | 0.8 | 31.2 | 7.5 | 0.8 | 2.5 | 1.1 | |
| Coefficient of variation (%) | | 33.8 | 40.2 | 42.4 | 24.2 | 25.1 | 11.0 | 44.2 | |
| 5% LSD Cultivar means (*****=ns) | | ***** | ***** | ***** | ***** | ***** | ***** | ***** | |

^{(1) (2) (3)} The mean values given in each table represent four observations except where indicated by numbers in parentheses.

Table 10. Trial 583, 1982

Country: BANGLADESH

Latitude: 23°N

Zone: 7 Group: A

Region: ASIA

Longitude: 91°25'E

Elevation (m): 10

Site: FENI NOAKHALI

Cooperator(s): DUANE AUCH

Date planted: December 7, 1982

Date harvested: March 31, 1983

Soil type: loam 22%, silt 62%, clay 16%, pH 6.3, grey silt loam, flood plain

Fertilizer used (kg/ha): N 25.0, P 26.4, K 24.9

Total moisture (mm): 1,067

Number of irrigations: 2 (100 mm)

Substituted cultivar(s): Foster, Bragg, Forrest

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 78 | ISRA/IRAT 44A/73 | 1,739.9 | 71.0 | 136.0 | 3.0 | | 98.8 | | 61.0 |
| 46 | Ecuador 2 | 1,656.6 | 71.0 | 124.0 | 2.8 | | 100.0 | | 61.0 |
| 10 | Improved Pelican | 1,629.5 | 71.0 | 125.0 | 3.5 | | 98.8 | | 72.3 |
| 19 | Davis | 1,610.7 | 66.0 | 126.0 | 2.5 | | 100.0 | | 50.7 |
| 64 | ICA L-125 | 1,512.8 | 57.0 | 137.0 | 3.5 | | 98.8 | | 61.7 |
| 44 | Foster | 1,464.9 | 49.0 | 114.0 | 3.0 | | 100.0 | | 32.3 |
| 18 | Forrest | 1,444.0 | 56.0 | 126.5 | 4.0 | | 100.0 | | 46.1 |
| 76 | SIATSA 194 | 1,323.2 | 84.0 | 139.0 | 2.8 | | 100.0 | | 100.1 |
| 77 | ICA L-124 | 1,310.7 | 71.5 | 130.0 | 3.0 | | 100.0 | | 70.4 |
| 39 | IGH 23 | 1,291.9 | 86.0 | 139.8 | 4.0 | | 100.0 | | 91.7 |
| 9 | Jupiter | 1,271.1 | 78.0 | 139.5 | 3.5 | | 100.0 | | 91.0 |
| 40 | IGH 24 | 1,231.5 | 69.0 | 149.5 | 3.5 | | 100.0 | | 82.8 |
| 79 | 71-38 | 1,119.0 | 71.5 | 137.3 | 4.0 | | 100.0 | | 42.3 |
| 89 | Williams 82 | 1,060.6 | 49.0 | 117.0 | 1.3 | | 100.0 | | 39.7 |
| 45 | ICA L-109 | 998.1 | 90.0 | 149.5 | 3.5 | | 100.0 | | 94.9 |
| 25 | Bragg | 866.8 | 52.0 | 117.0 | 4.0 | | 98.8 | | 38.1 |
| | Grand mean | 1,345.7 | 68.3 | 131.7 | 3.2 | | 99.7 | | 64.8 |
| | Standard error of cultivar mean | 134.0 | 0.9 | 0.6 | 0.5 | | 0.6 | | 3.2 |
| | Coefficient of variation (%) | 19.9 | 2.6 | 0.9 | 27.8 | | 1.2 | | 9.8 |
| 5% LSD Cultivar means (*****=ns) | | 381.8 | 2.6 | 1.7 | 1.3 | | ***** | | 9.1 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 78 | ISRA/IRAT 44A/73 | 1.5 | 1.0 | 209.3 | 29.7 | 13.1 | 11.8 | 2.3 | |
| 46 | Ecuador 2 | 2.5 | 1.0 | 233.0 | 22.5 | 9.9 | 13.4 | 2.0 | 95.5 |
| 10 | Improved Pelican | 2.8 | 1.0 | 231.0 | 28.3 | 13.1 | 10.8 | 2.0 | 97.5 |
| 19 | Davis | 1.0 | 1.0 | 228.3 | 17.9 | 8.9 | 13.9 | 2.0 | 96.8 |
| 64 | ICA L-125 | 1.8 | 1.0 | 222.5 | 26.6 | 10.6 | 10.9 | 2.8 | 93.0 |
| 44 | Foster | 1.0 | 1.0 | 243.0 | 14.9 | 8.7 | 14.6 | 2.0 | 95.3 |
| 18 | Forrest | 1.0 | 1.0 | 226.0 | 19.8 | 10.8 | 13.9 | 2.0 | 99.0 |
| 76 | SIATSA 194 | 2.3 | 1.0 | 210.0 | 22.0 | 19.2 | 12.8 | 2.0 | |
| 77 | ICA L-124 | 3.8 | 1.0 | 244.8 | 20.6 | 12.5 | 12.5 | 2.0 | |
| 39 | IGH 23 | 3.3 | 1.0 | 205.8 | 30.0 | 20.9 | 10.9 | 2.8 | |
| 9 | Jupiter | 4.5 | 1.0 | 190.3 | 34.8 | 15.2 | 12.4 | 3.8 | |
| 40 | IGH 24 | 2.5 | 1.0 | 155.8 | 39.6 | 14.8 | 10.6 | 2.3 | |
| 79 | 71-38 | 1.0 | 1.0 | 215.5 | 27.5 | 10.8 | 7.8 | 2.0 | |
| 89 | Williams 82 | 1.0 | 1.0 | 218.8 | 13.3 | 8.6 | 19.1 | 2.3 | 96.5 |
| 45 | ICA L-109 | 3.0 | 1.0 | 194.5 | 43.4 | 15.6 | 6.5 | 2.8 | |
| 25 | Bragg | 1.0 | 1.0 | 234.3 | 13.6 | 11.4 | 18.5 | 2.0 | 95.5 |
| | Grand mean | 2.1 | 1.0 | 216.4 | 25.3 | 12.8 | 12.5 | 2.3 | 96.1 |
| | Standard error of cultivar mean | 0.3 | 0.0 | 10.9 | 2.6 | 1.1 | 0.5 | 0.2 | 1.5 |
| | Coefficient of variation (%) | 27.0 | 0.0 | 10.1 | 20.9 | 16.7 | 7.2 | 19.7 | 3.0 |
| 5% LSD Cultivar means (*****=ns) | | 0.8 | ***** | 31.0 | 7.5 | 3.0 | 1.3 | 0.6 | ***** |

Table 11. Trial 560, 1982

Country: BURMA Latitude: 19°10'N Zone: 4 Group: A
Region: ASIA Longitude: 96°07'E Elevation (m): 102
Site: YEZIN
Cooperator(s): M.G. THEIN, SHIRLEY SMALLIE, KO SWE WIN
Date planted: August 31, 1982 Date harvested: November 22, 1982
Soil type: loam 78.4%, silt 14.6%, clay 7.0%, pH 6.5
Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
Total moisture (mm): 503

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|--------------------|-----------------|---------------|---------------|----------------|
| 46 | Ecuador 2 | 2,476.9 | 31.8 | 90.5 | 3.3 | 1.3 | 68.8 | 87.5 | 46.0 |
| 89 | Williams 82 | 2,367.4 | 24.0 | 75.5 | 3.5 | 3.0 | 57.5 | 71.3 | 57.5 |
| 9 | Jupiter | 2,360.9 | 37.5 | 89.5 | 3.5 | 2.5 | 66.3 | 91.3 | 56.5 |
| 39 | IGH 23 | 2,187.3 | 37.5 | 91.5 | 4.0 | 2.5 | 56.3 | 92.5 | 68.1 |
| 64 | ICA L-125 | 2,113.9 | 35.5 | 97.8 | 3.0 | 2.0 | 61.3 | 90.0 | 87.9 |
| 43 | Alamo | 2,066.7 | 35.0 | 86.5 | 4.3 | 3.3 | 50.0 | 90.0 | 42.1 |
| 10 | Improved Pelican | 2,065.0 | 30.5 | 87.0 | 3.5 | 2.3 | 61.3 | 97.5 | 84.7 |
| 76 | SIATSA 194 | 1,956.9 | 32.5 | 86.8 | 2.5 | 1.3 | 76.3 | 90.0 | 71.0 |
| 19 | Davis | 1,952.1 | 24.8 | 80.0 | 3.3 | 2.3 | 72.5 | 83.8 | 31.3 |
| 13 | Bossier | 1,846.7 | 28.5 | 78.0 | 4.0 | 2.8 | 61.3 | 83.8 | 31.8 |
| 40 | IGH 24 | 1,764.7 | 36.8 | 93.0 | 3.5 | 2.3 | 60.0 | 96.3 | 68.4 |
| 77 | ICA L-124 | 1,717.0 | 26.0 | 83.3 | 4.3 ^(a) | 2.5 | 76.3 | 92.5 | 52.0 |
| 78 | ISRA/IRAT 44A/73 | 1,659.1 | 34.5 | 84.0 | 2.5 | 1.3 | 65.0 | 87.5 | 41.9 |
| 2 | UFV-1 | 1,457.7 | 45.3 | 87.0 | 3.5 | 2.3 | 77.5 | 85.0 | 43.5 |
| 45 | ICA L-109 | 1,263.9 | 36.3 | 88.0 | 3.3 | 2.5 | 67.5 | 90.0 | 59.3 |
| 79 | 71-38 | 1,192.7 | 33.8 | 96.0 | 4.0 | 4.0 | 65.0 | 86.3 | 41.5 |
| Grand mean | | 1,903.0 | 33.1 | 87.1 | 3.5 | 2.4 | 65.2 | 88.4 | 55.2 |
| Standard error of cultivar mean | | 266.5 | 4.1 | 2.1 | 1.0 | 0.5 | 10.6 | 5.1 | 5.2 |
| Coefficient of variation (%) | | 28.0 | 24.5 | 4.9 | 27.3 | 41.2 | 32.5 | 11.6 | 18.9 |
| 5% LSD Cultivar means (*****=ns) | | 759.0 | 11.5 | 6.0 | ***** | 1.4 | ***** | ***** | 14.9 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 46 | Ecuador 2 | 1.0 | 1.0 | 128.0 | 36.8 | 12.0 | 15.0 | 2.0 | 91.3 |
| 89 | Williams 82 | 1.3 | 1.0 | 217.8 | 27.0 | 8.2 | 15.1 | 2.0 | 93.5 |
| 9 | Jupiter | 3.0 | 1.0 | 173.3 | 48.0 | 13.1 | 14.3 | 2.0 | 94.8 |
| 39 | IGH 23 | 3.0 | 1.3 | 181.0 | 38.5 | 20.6 | 14.2 | 2.0 | 87.8 |
| 64 | ICA L-125 | 3.0 | 1.0 | 211.3 | 41.5 | 15.2 | 11.5 | 2.0 | 92.8 |
| 43 | Alamo | 1.3 | 1.3 | 179.8 | 35.8 | 11.5 | 12.6 | 2.0 | 91.3 |
| 10 | Improved Pelican | 3.5 | 1.3 | 187.3 | 37.3 | 11.7 | 12.4 | 2.0 | 93.5 |
| 76 | SIATSA 194 | 2.8 | 1.3 | 198.5 | 36.0 | 19.0 | 17.9 | 2.0 | 88.0 |
| 19 | Davis | 1.0 | 1.0 | 192.0 | 26.5 | 5.7 | 14.5 | 2.0 | 80.0 |
| 13 | Bossier | 1.0 | 1.0 | 205.5 | 25.3 | 5.2 | 15.0 | 2.0 | 83.5 |
| 40 | IGH 24 | 2.8 | 1.3 | 175.8 | 40.0 | 13.0 | 13.7 | 2.0 | 95.5 |
| 77 | ICA L-124 | 2.0 | 1.3 | 202.8 | 24.0 | 11.7 | 15.9 | 2.0 | 92.0 |
| 78 | ISRA/IRAT 44A/73 | 3.0 | 1.3 | 160.5 | 37.3 | 15.3 | 11.0 | 2.0 | 98.8 |
| 2 | UFV-1 | 1.0 | 1.0 | 176.3 | 31.5 | 11.4 | 11.8 | 2.0 | 88.5 |
| 45 | ICA L-109 | 2.8 | 1.3 | 182.5 | 57.5 | 11.2 | 9.7 | 2.0 | 74.8 |
| 79 | 71-38 | 1.5 | 1.3 | 179.8 | 41.0 | 9.0 | 10.0 | 2.0 | 60.0 |
| Grand mean | | 2.1 | 1.1 | 184.5 | 36.5 | 12.1 | 13.4 | 2.0 | 87.9 |
| Standard error of cultivar mean | | 0.4 | 0.2 | 12.3 | 5.2 | 1.5 | 0.7 | 0.0 | 4.1 |
| Coefficient of variation (%) | | 40.3 | 31.6 | 13.4 | 28.4 | 24.2 | 10.2 | 0.0 | 9.3 |
| 5% LSD Cultivar means (*****=ns) | | 1.2 | ***** | 35.1 | 14.8 | 4.2 | 2.0 | ***** | 11.7 |

Table 12. Trial 502, 1982

Country: CAMEROON Latitude: 5°27'N Zone: 3 Group: A
 Region: AFRICA Longitude: 10°05'E Elevation (m): 1,450
 Site: DSCHANG
 Cooperator(s): PATRICK SALEZ
 Date planted: July 7, 1982 Date harvested: October 21, 1982
 Soil type: loam 39%, silt 32%, clay 29%, pH 5.6

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------------|--------------------|----------------|
| 76 | SIATSA 194 | 2,521.3 | 62.0 | 135.0 | 1.0 | 1.0 | 86.7 ⁽³⁾ | 65.0 | 51.8 |
| 9 | Jupiter | 2,029.6 | 67.3 | 137.0 | 1.5 | 1.0 | 66.7 ⁽³⁾ | 45.0 | 52.8 |
| 64 | ICA L-125 | 1,896.2 | 55.5 | 131.0 | 2.0 | 1.0 | 46.7 ⁽³⁾ | 55.0 | 42.5 |
| 2 | UFV-1 | 1,806.6 | 55.0 | 121.8 | 2.5 | 1.3 | 46.7 ⁽³⁾ | 45.0 | 39.5 |
| 10 | Improved Pelican | 1,798.3 | 57.0 | 126.0 | 2.3 | 2.0 | 53.3 ⁽³⁾ | 40.0 | 47.5 |
| 39 | IGH 23 | 1,796.2 | 72.8 | 142.3 | 2.3 | 1.5 | 33.3 ⁽³⁾ | 45.0 | 60.0 |
| 43 | Alamo | 1,767.0 | 62.3 | 127.0 | 2.5 | 1.0 | 53.3 ⁽³⁾ | 55.0 | 44.0 |
| 40 | IGH 24 | 1,717.0 | 73.8 | 143.3 | 2.5 | 1.0 | 50.0 | 50.0 | 49.0 |
| 78 | ISRA/IRAT 44A/73 | 1,700.3 | 64.5 | 124.8 | 1.0 | 1.0 | 66.7 ⁽³⁾ | 65.0 | 40.3 |
| 79 | 71-38 | 1,364.9 | 54.0 | 123.5 | 3.5 | 2.0 | 26.7 ⁽³⁾ | 30.0 | 35.5 |
| 46 | Ecuador 2 | 1,212.7 | 57.0 | 122.8 | 2.3 | 2.5 | 46.7 ⁽³⁾ | 40.0 | 42.3 |
| 45 | ICA L-109 | 1,187.7 | 74.3 | 146.0 | 3.0 | 1.3 | 40.0 ⁽³⁾ | 45.0 | 50.5 |
| 77 | ICA L-124 | 1,135.6 | 52.8 | 124.0 | 1.3 | 2.3 | 73.3 ⁽³⁾ | 65.0 | 45.5 |
| 19 | Davis | 1,058.5 | 51.3 | 113.5 | 2.5 | 4.0 | 40.0 | 35.0 | 31.8 |
| 44 | Foster | 656.4 | 43.3 | 102.5 | 1.8 | 4.3 | 55.0 | 30.0 | 27.8 |
| 89 | Williams 82 | 585.5 | 40.0 | 103.8 | 1.5 | 5.0 | 73.3 ⁽³⁾ | 0.0 ⁽²⁾ | 27.5 |
| Grand mean | | 1,514.6 | 58.9 | 126.5 | 2.1 | 2.0 | 53.3 | 45.8 | 43.0 |
| Standard error of cultivar mean | | 129.7 | 1.0 | 0.4 | 0.4 | 0.4 | 21.4 | 23.0 | 1.3 |
| Coefficient of variation (%) | | 17.1 | 3.4 | 0.6 | 36.1 | 36.4 | 40.2 | 50.2 | 6.0 |
| 5% LSD Cultivar means (*****=ns) | | 369.3 | 2.9 | 1.1 | 1.1 | 1.0 | ***** | ***** | 3.7 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 76 | SIATSA 194 | 2.0 | | 151.8 | 29.8 | 11.4 | 21.1 | 2.0 | 98.5 |
| 9 | Jupiter | 2.3 | | 149.3 | 30.3 | 13.8 | 18.2 | 1.0 | 92.3 |
| 64 | ICA L-125 | 2.0 | | 158.8 | 48.0 | 9.3 | 12.7 | 1.0 | 93.0 |
| 2 | UFV-1 | 1.0 | | 165.3 | 23.9 | 8.5 | 15.6 | 1.8 | 98.5 |
| 10 | Improved Pelican | 1.8 | | 172.0 | 34.5 | 11.8 | 15.0 | 1.0 | 97.3 |
| 39 | IGH 23 | 2.0 | | 156.8 | 48.5 | 13.8 | 16.5 | 1.5 | 96.5 |
| 43 | Alamo | 2.0 | | 149.8 | 29.6 | 11.8 | 15.3 | 1.0 | 99.8 |
| 40 | IGH 24 | 2.0 | | 155.0 | 48.2 | 14.4 | 14.7 | 1.0 | 91.5 |
| 78 | ISRA/IRAT 44A/73 | 1.8 | | 153.5 | 44.2 | 11.4 | 11.4 | 1.5 | 99.5 |
| 79 | 71-38 | 1.0 | | 133.8 | 33.8 | 7.4 | 12.2 | 2.0 | 98.8 |
| 46 | Ecuador 2 | 2.0 | | 152.3 | 29.5 | 11.3 | 15.3 | 1.3 | 98.3 |
| 45 | ICA L-109 | 2.0 | | 154.8 | 56.4 | 12.6 | 10.9 | 2.0 | |
| 77 | ICA L-124 | 1.3 | | 167.0 | 21.3 | 9.4 | 20.6 | 2.0 | 97.5 |
| 19 | Davis | 1.0 | | 159.8 | 22.3 | 6.5 | 15.9 | 2.0 | 96.3 |
| 44 | Foster | 1.0 | | 157.0 | 15.0 | 9.9 | 14.3 | 2.0 | 93.3 |
| 89 | Williams 82 | 1.0 | | 171.0 | 12.4 | 7.1 | 16.3 | 2.0 | 93.0 |
| Grand mean | | 1.6 | | 156.7 | 33.0 | 10.6 | 15.4 | 1.6 | 96.3 |
| Standard error of cultivar mean | | 0.5 | | 6.5 | 2.9 | 1.0 | 0.7 | 0.1 | 2.6 |
| Coefficient of variation (%) | | 32.2 | | 8.3 | 17.6 | 18.6 | 8.4 | 16.9 | 5.4 |
| 5% LSD Cultivar means (*****=ns) | | ***** | | 18.5 | 8.3 | 2.8 | 1.8 | 0.4 | ***** |

Table 13. Trial 841, 1982

| | | | |
|--|-------------------------------|--------------------|----------|
| Country: CHILE | Latitude: 33°40'S | Zone: 11 | Group: C |
| Region: SOUTH AMERICA | Longitude: 70°36'W | Elevation (m): 654 | |
| Site: PIRQUE, R.M. | | | |
| Cooperator(s): PATRICIO C. PARODI, I. M. NEBRED, L. CAMPOS | | | |
| Date planted: November 13, 1982 | Date harvested: March 9, 1983 | | |
| Fertilizer used (kg/ha): N 30.0, P 44.0 | | | |

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 89 | Williams 82 | 4,663.8 | | 120.0 | | | | | 132.5 |
| 57 | Corsoy 79 | 4,598.2 | | 120.0 | | | | | 131.3 |
| 73 | Century | 4,482.1 | | 110.0 | | | | | 133.5 |
| 86 | Fayette | 4,285.3 | | 126.0 | | | | | 174.8 |
| 88 | Lakota | 4,279.0 | | 120.0 | | | | | 163.3 |
| 85 | Pixie | 4,235.8 | | 130.0 | | | | | 79.8 |
| 70 | Hardin | 4,217.0 | | 110.0 | | | | | 128.3 |
| 74 | Pella | 3,997.3 | | 110.0 | | | | | 159.8 |
| 72 | Amcor | 3,936.9 | | 110.0 | | | | | 132.5 |
| 36 | Evans | 3,909.3 | | 104.0 | | | | | 101.3 |
| 84 | Sparks | 3,785.8 | | 128.0 | | | | | 163.0 |
| 71 | Hodgson 78 | 3,620.3 | | 122.0 | | | | | 100.5 |
| 87 | Clay | 3,574.4 | | 104.0 | | | | | 75.5 |
| 60 | Kent | 3,550.0 | | 128.0 | | | | | 147.3 |
| 35 | Crawford | 3,046.9 | | 130.0 | | | | | 158.3 |
| Grand mean | | 4,012.1 | | 118.1 | | | | | 132.1 |
| Standard error of cultivar mean | | 88.6 | | 0.5 | | | | | 2.0 |
| Coefficient of variation (%) | | 4.4 | | 0.9 | | | | | 3.1 |
| 5% LSD Cultivar means (****=ns) | | 253.0 | | 1.5 | | | | | 5.8 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 89 | Williams 82 | 3.0 | 1.0 | 194.5 | 39.9 | 13.5 | 19.3 | 1.0 | 96.8 |
| 57 | Corsoy 79 | 2.0 | 1.0 | 201.5 | 39.6 | 12.2 | 17.1 | 2.0 | 97.8 |
| 73 | Century | 3.0 | 1.0 | 191.5 | 33.1 | 16.4 | 20.1 | 2.0 | 97.3 |
| 86 | Fayette | 4.0 | 1.0 | 186.8 | 43.8 | 16.3 | 18.6 | 1.5 | 96.8 |
| 88 | Lakota | 4.0 | 1.3 | 179.8 | 36.4 | 15.5 | 16.3 | 2.5 | 97.5 |
| 85 | Pixie | 1.0 | 1.0 | 179.3 | 37.9 | 14.8 | 18.7 | 1.8 | 96.8 |
| 70 | Hardin | 2.0 | 1.0 | 181.5 | 43.8 | 13.3 | 16.7 | 2.5 | 97.5 |
| 74 | Pella | 4.0 | 1.0 | 193.8 | 29.2 | 15.9 | 21.4 | 2.8 | 95.8 |
| 72 | Amcor | 3.0 | 1.0 | 175.3 | 36.7 | 12.7 | 17.5 | 3.3 | 97.5 |
| 36 | Evans | 1.0 | 1.0 | 188.5 | 31.6 | 9.1 | 16.0 | 2.3 | 97.5 |
| 84 | Sparks | 4.0 | 1.0 | 179.3 | 38.4 | 18.1 | 17.9 | 2.5 | 97.3 |
| 71 | Hodgson 78 | 1.0 | 1.3 | 171.0 | 32.9 | 10.7 | 17.6 | 2.0 | 98.0 |
| 87 | Clay | 1.0 | 1.0 | 179.8 | 28.1 | 8.1 | 16.7 | 2.3 | 98.0 |
| 60 | Kent | 3.0 | 1.3 | 163.0 | 36.0 | 17.6 | 18.3 | 2.0 | 97.5 |
| 35 | Crawford | 4.0 | 1.0 | 179.0 | 52.3 | 19.1 | 15.8 | 2.3 | 98.3 |
| Grand mean | | 2.7 | 1.1 | 183.0 | 37.3 | 14.2 | 17.9 | 2.2 | 97.3 |
| Standard error of cultivar mean | | 0.0 | 0.1 | 6.6 | 2.0 | 0.6 | 0.4 | 0.2 | 0.5 |
| Coefficient of variation (%) | | 0.0 | 21.1 | 7.2 | 10.5 | 9.0 | 4.0 | 18.3 | 1.0 |
| 5% LSD Cultivar means (****=ns) | | 0.0 | **** | 18.8 | 5.6 | 1.8 | 1.0 | 0.6 | **** |

Table 14. Trial 544, 1982

Country: CHINA (TAIWAN)

Latitude: 23°01'N

Zone: 7 Group: A

Region: ASIA

Longitude: 120°17'E

Elevation (m): 9

Site: AVRDC, SHANHUA

Cooperator(s): SUNDAR SHANMUGASUNDARAM

Date planted: September 21, 1982

Date harvested: December 15, 1982

Fertilizer used (kg/ha): N 30.0, P 26.2, K 66.7

Total moisture (mm): 84

Number of irrigations: 2

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 76 | SIATSA 194 | 3,224.4 | 31.5 | 91.5 | 4.3 | 4.0 | 76.3 | 92.5 | 82.3 |
| 10 | Improved Pelican | 2,918.8 | 29.8 | 82.5 | 4.5 | 4.0 | 42.5 | 86.3 | 78.0 |
| 2 | UFV-1 | 2,055.0 | 29.0 | 88.0 | 4.5 | 4.0 | 85.0 | 95.0 | 52.0 |
| 43 | Alamo | 1,908.8 | 33.3 | 90.0 | 4.5 | 4.0 | 38.8 | 98.8 | 61.0 |
| 45 | ICA L-109 | 1,805.6 | 34.3 | 89.0 | 4.0 | 4.0 | 76.3 | 91.3 | 79.8 |
| 19 | Davis | 1,706.9 | 24.5 | 80.5 | 4.5 | 4.0 | 77.5 | 96.3 | 40.3 |
| 46 | Ecuador 2 | 1,678.8 | 30.8 | 84.5 | 4.8 | 4.5 | 41.3 | 73.8 | 61.8 |
| 79 | 71-38 | 1,660.6 | 30.0 | 88.5 | 4.5 | 4.3 | 47.5 | 80.0 | 51.0 |
| 89 | Williams 82 | 1,633.1 | 20.8 | 79.5 | 4.0 | 4.0 | 91.3 | 97.5 | 41.8 |
| 13 | Bossier | 1,589.4 | 20.3 | 78.5 | 4.0 | 3.8 | 81.3 | 98.8 | 47.3 |
| 64 | ICA L-125 | 1,573.1 | 31.5 | 87.5 | 4.3 | 4.3 | 55.0 | 87.5 | 77.5 |
| 9 | Jupiter | 1,495.6 | 34.5 | 91.5 | 4.5 | 4.5 | 38.8 | 82.5 | 85.3 |
| 78 | ISRA/IRAT 44A/73 | 1,340.0 | 33.5 | 84.0 | 4.8 | 3.8 | 51.3 | 81.3 | 61.8 |
| 77 | ICA L-124 | 1,288.8 | 29.3 | 82.0 | 4.8 | 4.0 | 52.5 | 86.3 | 64.5 |
| 40 | IGH 24 | 1,265.6 | 40.0 | 92.5 | 4.8 | 4.0 | 38.8 | 77.5 | 83.3 |
| 39 | IGH 23 | 1,126.3 | 36.0 | 92.5 | 4.5 | 4.0 | 76.3 | 88.8 | 91.3 |
| Grand mean | | 1,766.9 | 30.6 | 86.4 | 4.4 | 4.1 | 60.6 | 88.4 | 66.2 |
| Standard error of cultivar mean | | 247.9 | 0.5 | 1.5 | 0.2 | 0.2 | 12.2 | 9.9 | 2.7 |
| Coefficient of variation (%) | | 28.1 | 3.0 | 3.5 | 9.8 | 10.5 | 40.4 | 22.4 | 8.2 |
| 5% LSD Cultivar means (*****=ns) | | 706.2 | 1.3 | 4.3 | ***** | ***** | 34.9 | ***** | 7.7 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 76 | SIATSA 194 | 3.0 | | 162.5 | 23.5 | 17.5 | 17.7 | 1.3 | 100.0 (1) |
| 10 | Improved Pelican | 2.3 | | 190.8 | 24.0 | 16.3 | 13.4 | 2.0 | 100.0 (1) |
| 2 | UFV-1 | 1.5 | | 171.8 | 21.0 | 12.0 | 11.7 | 2.3 | 100.0 (1) |
| 43 | Alamo | 2.8 | | 167.5 | 23.3 | 12.3 | 11.8 | 2.0 | 100.0 (1) |
| 45 | ICA L-109 | 3.0 | | 173.5 | 20.0 | 17.5 | 11.0 | 2.3 | 100.0 (1) |
| 19 | Davis | 1.0 | | 189.3 | 17.8 | 12.0 | 13.2 | 2.5 | 100.0 (1) |
| 46 | Ecuador 2 | 1.5 | | 172.5 | 18.5 | 12.3 | 12.4 | 2.3 | 99.0 (1) |
| 79 | 71-38 | 2.5 | | 166.8 | 23.3 | 7.3 | 10.9 | 2.5 | 100.0 (1) |
| 89 | Williams 82 | 1.0 | | 187.0 | 14.0 | 9.3 | 14.4 | 2.3 | 100.0 (1) |
| 13 | Bossier | 1.0 | | 190.8 | 17.0 | 7.8 | 11.9 | 2.0 | 100.0 (1) |
| 64 | ICA L-125 | 2.8 | | 187.3 | 24.0 | 15.8 | 11.0 | 2.0 | 80.0 (1) |
| 9 | Jupiter | 3.0 | | 151.8 | 16.8 | 22.8 | 13.9 | 2.3 | 99.0 (1) |
| 78 | ISRA/IRAT 44A/73 | 3.0 | | 203.3 | 21.5 | 12.5 | 11.5 | 2.5 | 100.0 (1) |
| 77 | ICA L-124 | 3.0 | | 182.5 | 16.8 | 14.8 | 13.4 | 2.3 | 100.0 (1) |
| 40 | IGH 24 | 3.5 | | 161.0 | 24.5 | 17.0 | 12.5 | 2.5 | 96.0 (1) |
| 39 | IGH 23 | 3.0 | | 161.3 | 19.5 | 24.8 | 12.1 | 2.5 | 96.0 (1) |
| Grand mean | | 2.4 | | 176.2 | 20.3 | 14.5 | 12.7 | 2.2 | 98.1 |
| Standard error of cultivar mean | | 0.2 | | 8.2 | 2.1 | 1.1 | 0.7 | 0.2 | 5.0 |
| Coefficient of variation (%) | | 17.5 | | 9.4 | 20.3 | 15.3 | 10.4 | 20.7 | 5.1 |
| 5% LSD Cultivar means (*****=ns) | | 0.6 | | 23.5 | 5.9 | 3.2 | 1.9 | 0.7 | ***** |

Table 15. Trial 716, 1982

Country: CHINA (TAIWAN) Latitude: 23°01'N Zone: 7 Group: B
Region: ASIA Longitude: 120°17'E Elevation (m): 9
Site: AVRDC, SHANHUA
Cooperator(s): SUNDAR SHANMUGASUNDARAM
Date planted: July 21, 1982 Date harvested: October 20, 1982
Fertilizer used (kg/ha): N 30.0, P 26.2, K 66.7
Total moisture (mm): 574
Number of irrigations: 2

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|---------------------|-----------------|-----------------|---------------|---------------|----------------|
| 82 | PK-73-86 | 3,805.0 | 33.0 | 94.3 | 3.3 | 2.3 | 97.5 | 92.5 | 54.3 |
| 47 | PK-73-94 | 3,617.5 | 34.8 | 93.0 | 3.0 | 2.0 | 98.8 | 98.8 | 52.8 |
| 80 | HM-1 | 3,447.0 | 32.0 | 97.0 | 3.0 | 2.5 | 95.0 | 100.0 | 54.0 |
| 44 | Foster | 3,282.0 | 37.0 | 87.8 | 3.3 | 2.3 | 86.3 | 91.3 | 33.3 |
| 83 | CEP 7717 | 3,067.5 | 37.3 | 87.5 | 3.3 | 2.5 | 98.8 | 97.5 | 63.8 |
| 19 | Davis | 2,992.0 | 33.0 | 88.5 | 3.5 | 2.5 | 100.0 | 98.8 | 42.5 |
| 81 | Ecuador 1 | 2,988.0 | 39.0 | 97.0 ⁽³⁾ | 3.3 | 2.5 | 98.8 | 95.0 | 74.5 |
| 13 | Bossier | 2,981.5 | 28.3 | 87.8 | 2.8 | 2.5 | 96.3 | 93.8 | 38.3 |
| 75 | Braxton | 2,871.0 | 29.5 | 88.0 | 3.3 | 2.3 | 100.0 | 95.0 | 39.5 |
| 76 | SIATSA 194 | 2,837.5 | 41.3 | 95.8 | 3.0 | 2.3 | 97.5 | 88.8 | 119.3 |
| 77 | ICA L-124 | 2,836.0 | 24.5 | 86.0 | 2.8 | 2.3 | 100.0 | 97.5 | 63.8 |
| 43 | Alamo | 2,709.0 | 41.8 | 97.5 | 3.3 | 2.3 | 97.5 | 98.8 | 54.8 |
| 89 | Williams 82 | 2,573.5 | 23.3 | 86.0 | 3.0 | 2.0 | 96.3 | 98.8 | 56.8 |
| 37 | G 2120 | 2,543.5 | 51.3 | 93.5 | 3.8 | 2.5 | 98.8 | 93.8 | 90.3 |
| 9 | Jupiter | 2,480.5 | 39.5 | 98.5 | 3.8 | 2.8 | 97.5 | 93.8 | 80.0 |
| 69 | Essex | 2,312.5 | 26.3 | 86.0 | 3.3 | 2.3 | 95.0 | 95.0 | 32.5 |
| Grand mean | | 2,959.0 | 34.5 | 91.4 | 3.2 | 2.3 | 97.1 | 95.6 | 59.4 |
| Standard error of cultivar mean | | 154.0 | 1.5 | 4.8 | 0.2 | 0.3 | 3.2 | 2.2 | 5.4 |
| Coefficient of variation (%) | | 10.4 | 8.6 | 5.2 | 14.0 | 26.0 | 6.7 | 4.6 | 18.2 |
| 5% LSD Cultivar means (****=ns) | | 438.6 | 4.2 | **** | **** | **** | **** | 6.3 | 15.4 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|----------------------|
| 82 | PK-73-86 | 1.5 | | 179.8 | 39.3 | 13.3 | 14.9 | 1.0 | 97.0 ⁽¹⁾ |
| 47 | PK-73-94 | 1.0 | | 175.3 | 36.5 | 11.8 | 14.1 | 1.0 | 99.0 ⁽¹⁾ |
| 80 | HM-1 | 1.8 | | 194.0 | 29.3 | 12.5 | 16.7 | 1.0 | 98.0 ⁽¹⁾ |
| 44 | Foster | 1.0 | | 185.0 | 29.8 | 11.5 | 14.0 | 1.0 | 98.0 ⁽¹⁾ |
| 83 | CEP 7717 | 2.0 | | 174.0 | 30.8 | 14.8 | 12.4 | 1.0 | 98.0 ⁽¹⁾ |
| 19 | Davis | 1.0 | | 213.3 | 25.5 | 10.5 | 15.9 | 1.0 | 96.0 ⁽¹⁾ |
| 81 | Ecuador 1 | 1.8 | | 207.5 | 29.3 | 13.3 | 13.8 | 1.0 | 100.0 ⁽¹⁾ |
| 13 | Bossier | 1.0 | | 175.0 | 31.5 | 11.3 | 13.7 | 1.0 | 94.0 ⁽¹⁾ |
| 75 | Braxton | 1.0 | | 171.5 | 23.8 | 11.8 | 16.4 | 1.0 | 96.0 ⁽¹⁾ |
| 76 | SIATSA 194 | 3.0 | | 175.0 | 30.0 | 16.3 | 16.3 | 1.0 | 99.0 ⁽¹⁾ |
| 77 | ICA L-124 | 2.0 | | 199.0 | 28.8 | 10.8 | 15.3 | 1.0 | 94.0 ⁽¹⁾ |
| 43 | Alamo | 1.5 | | 172.5 | 29.5 | 15.5 | 12.8 | 1.0 | 99.0 ⁽¹⁾ |
| 89 | Williams 82 | 1.5 | | 195.0 | 24.8 | 11.0 | 15.6 | 1.0 | 84.0 ⁽¹⁾ |
| 37 | G 2120 | 3.0 | | 174.0 | 62.5 | 11.5 | 6.4 | 1.0 | 99.0 ⁽¹⁾ |
| 9 | Jupiter | 2.0 | | 188.5 | 29.5 | 15.3 | 13.3 | 1.0 | 100.0 ⁽¹⁾ |
| 69 | Essex | 1.0 | | 193.5 | 31.0 | 10.0 | 12.6 | 1.0 | 96.0 ⁽¹⁾ |
| Grand mean | | 1.6 | | 185.8 | 32.0 | 12.6 | 14.0 | 1.0 | 96.7 |
| Standard error of cultivar mean | | 0.2 | | 14.2 | 3.6 | 0.6 | 0.2 | 0.0 | 3.9 |
| Coefficient of variation (%) | | 22.9 | | 15.3 | 22.2 | 9.9 | 3.1 | 0.0 | 4.0 |
| 5% LSD Cultivar means (****=ns) | | 0.5 | | **** | 10.1 | 1.8 | 0.6 | **** | **** |

Table 16. Trial 501, 1982

Country: COLOMBIA Latitude: 3°32'N Zone: 3 Group: A
 Region: SOUTH AMERICA Longitude: 76°17'W Elevation (m): 1,008
 Site: CENTRO EXPERIMENTAL PALMIRA
 Cooperator(s): GILBERTO BASTIDAS R., ORLANDO AGUDELO
 Date planted: April 23, 1982 Date harvested: July 6, 1982
 Soil type: pH 6.8
 Total moisture (mm): 202
 Number of irrigations: 6 (180 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|--------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 45 | ICA L-109 | 3,534.0 | 40.0 | 117.0 | 1.0 | 1.3 | 98.8 | 80.2 | 78.3 |
| 9 | Jupiter | 3,392.4 | 40.0 | 117.0 | 1.3 | 1.0 | 99.0 | 75.0 | 83.5 |
| 40 | IGH 24 | 3,375.7 | 42.0 | 117.0 | 1.0 | 1.0 | 95.0 | 67.5 | 79.0 |
| 64 | ICA L-125 | 3,367.3 | 26.0 | 117.0 | 1.3 | 1.0 | 98.8 | 86.8 | 86.8 |
| 76 | SIATSA 194 | 3,317.3 | 31.0 | 110.0 | 1.0 | 1.0 | 100.0 | 89.2 | 87.5 |
| 78 | ISRA/IRAT 44A/73 | 3,242.3 | 31.0 | 110.0 | 1.0 | 1.0 | 100.0 | 81.2 | 62.8 |
| 2 | UFV-1 | 3,225.7 | 27.8 | 117.0 | 1.0 | 1.0 | 98.8 | 80.8 | 41.8 |
| 46 | Ecuador 2 | 3,159.0 | 27.3 | 110.0 | 1.0 | 1.0 | 97.5 | 80.5 | 54.8 |
| 43 | Alamo | 3,058.9 | 40.0 | 117.0 | 1.0 | 1.0 | 96.2 | 69.2 | 52.5 |
| 77 | ICA L-124 | 2,992.3 | 27.0 | 110.0 | 1.0 | 1.0 | 98.8 | 74.5 | 53.3 |
| 19 | Davis | 2,925.6 | 26.0 | 110.0 | 2.0 | 1.0 | 97.5 | 98.0 | 37.3 |
| 39 | IGH 23 | 2,908.9 | 40.0 | 117.0 | 1.0 | 1.0 | 96.0 | 74.8 | 82.5 |
| 10 | Improved Pelican | 2,808.9 | 26.0 | 96.0 | 2.3 | 1.0 | 96.2 | 94.5 | 71.8 |
| 79 | 71-38 | 2,150.4 | 26.0 | 107.0 | 1.8 | 1.0 | 97.5 | 96.8 | 37.5 |
| 44 | Foster | 1,783.7 | 20.8 | 82.0 | 2.3 | 1.3 | 99.5 | 99.5 | 28.3 |
| 89 | Williams 82 | 1,767.0 | 18.0 | 82.0 | 1.8 | 1.0 | 98.8 | 99.5 | 39.8 |
| | Grand mean | 2,938.1 | 30.6 | 108.5 | 1.3 | 1.0 | 98.0 | 84.2 | 61.1 |
| | Standard error of cultivar mean | 164.6 | 0.1 | 0.0 | 0.2 | 0.1 | 1.5 | 3.3 | 2.4 |
| | Coefficient of variation (%) | 11.2 | 0.7 | 0.0 | 31.7 | 17.3 | 3.1 | 7.8 | 7.9 |
| | 5% LSD Cultivar means (****=ns) | 468.8 | 0.3 | 0.0 | 0.6 | **** | **** | 9.3 | 6.9 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|--------------|---------------------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|----------------------|
| 45 | ICA L-109 | 2.5 | | 128.8 | 87.1 | 11.0 | 12.8 | 2.0 | 90.0 ⁽¹⁾ |
| 9 | Jupiter | 3.8 | | 120.5 | 60.2 | 12.3 | 19.1 | 2.0 | 80.0 ⁽¹⁾ |
| 40 | IGH 24 | 1.5 | | 130.0 | 58.3 | 16.5 | 17.7 | 2.5 | 100.0 ⁽¹⁾ |
| 64 | ICA L-125 | 3.0 | | 127.8 | 76.8 | 14.3 | 16.3 | 2.3 | 100.0 ⁽¹⁾ |
| 76 | SIATSA 194 | 3.0 | | 124.3 | 52.6 | 14.3 | 21.0 | 2.5 | 100.0 ⁽¹⁾ |
| 78 | ISRA/IRAT 44A/73 | 3.5 | | 131.5 | 62.6 | 12.0 | 14.7 | 2.5 | 90.0 ⁽¹⁾ |
| 2 | UFV-1 | 1.0 | | 131.0 | 54.6 | 8.3 | 16.7 | 1.0 | 100.0 ⁽¹⁾ |
| 46 | Ecuador 2 | 1.3 | | 126.0 | 47.0 | 12.0 | 17.7 | 2.0 | 100.0 ⁽¹⁾ |
| 43 | Alamo | 1.5 | | 121.0 | 46.3 | 13.0 | 17.5 | 2.0 | 100.0 ⁽¹⁾ |
| 77 | ICA L-124 | 3.0 | | 135.8 | 49.8 | 11.3 | 23.0 | 2.0 | 80.0 ⁽¹⁾ |
| 19 | Davis | 1.0 | | 128.5 | 42.5 | 7.8 | 19.0 | 1.0 | 90.0 ⁽¹⁾ |
| 39 | IGH 23 | 2.5 | | 106.5 | 57.4 | 15.3 | 19.1 | 2.0 | 80.0 ⁽¹⁾ |
| 10 | Improved Pelican | 1.8 | | 129.0 | 45.2 | 12.5 | 15.4 | 1.0 | 100.0 ⁽¹⁾ |
| 79 | 71-38 | 1.0 | | 118.8 | 50.7 | 6.5 | 12.9 | 2.0 | 90.0 ⁽¹⁾ |
| 44 | Foster | 1.0 | | 157.0 | 29.9 | 6.8 | 15.3 | 2.0 | 90.0 ⁽¹⁾ |
| 89 | Williams 82 | 1.0 | | 131.0 | 25.1 | 6.5 | 18.6 | 1.0 | 100.0 ⁽¹⁾ |
| | Grand mean | 2.0 | | 128.0 | 52.9 | 11.3 | 17.3 | 1.9 | 93.1 |
| | Standard error of cultivar mean | 0.3 | | 6.6 | 4.4 | 1.0 | 0.2 | 0.1 | 7.9 |
| | Coefficient of variation (%) | 28.8 | | 10.3 | 16.8 | 16.9 | 2.5 | 13.8 | 8.5 |
| | 5% LSD Cultivar means (****=ns) | 0.8 | | 18.8 | 12.6 | 2.7 | 0.6 | 0.4 | **** |

Table 17. Trial 708, 1982

Country: CYPRUS Latitude: 35°08'N Zone: 10 Group: B
Region: MIDDLE EAST Longitude: 33°05'E Elevation (m): 350
Site: OROUNDA
Cooperator(s): A. HADJICHRISTODOULOU
Date planted: May 24, 1982 Date harvested: October 7, 1982
Soil type: loam 38%, silt 15%, clay 46%, pH 8.0
Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
Total moisture (mm): 850

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|--------------|----------------------------------|----------------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------------|
| 43 | Alamo | | 120.0 | | | | | | |
| 69 | Essex | 3,264.8 | 71.3 | 131.3 | | | | | 140.5 |
| 89 | Williams 82 | 2,581.3 | 59.0 | 124.0 | | | | | 92.0 |
| 19 | Davis | 1,969.1 | 82.0 | 142.0 | | | | | 141.0 |
| 83 | CEP 7717 | 1,332.8 | 80.8 | 138.0 | | | | | 105.5 |
| 47 | PK-73-94 | 838.5 | 88.5 | 144.0 | | | | | 110.3 |
| 44 | Foster | 828.5 | 82.8 | 149.3 | | | | | 111.5 |
| 75 | Braxton | 766.0 | 89.8 | 145.5 | | | | | 133.0 |
| 82 | PK-73-86 | 701.4 | 87.3 | 145.0 | | | | | 105.8 |
| 77 | ICA L-124 | 503.4 | 80.8 | 146.8 | | | | | 120.0 |
| 10 | Improved Pelican | 282.6 ⁽²⁾ | 109.0 | 159.0 | | | | | 192.5 ⁽²⁾ |
| 37 | G 2120 | 238.4 ⁽¹⁾ | 116.0 | 152.0 | | | | | 195.0 ⁽¹⁾ |
| 80 | HM-1 | 151.1 ⁽³⁾ | 93.5 | 159.3 | | | | | 122.7 ⁽³⁾ |
| 81 | Ecuador 1 | 135.9 ⁽²⁾ | 117.3 | 159.0 | | | | | 185.0 ⁽²⁾ |
| 76 | SIATSA 194 | 37.5 ⁽²⁾ | 107.0 | 159.0 | | | | | 167.5 ⁽²⁾ |
| 9 | Jupiter | 33.3 ⁽¹⁾ | 112.0 | 160.0 | | | | | 98.0 ⁽¹⁾ |
| | Grand mean | 1,123.0 | 93.6 | 144.8 | | | | | 127.4 |
| | Standard error of cultivar mean | 1,101.7 | 2.8 | 11.0 | | | | | 35.2 |
| | Coefficient of variation (%) | 98.1 | 5.9 | 7.6 | | | | | 27.6 |
| | 5% LSD Cultivar means (*****=ns) | ***** | 7.9 | ***** | | | | | ***** |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|--------------|----------------------------------|--------------------|--------------------|----------------------|---------------------|--------------|------------------|-----------------|---------------|
| 43 | Alamo | | | | | | | | |
| 69 | Essex | 3.3 | 0.0 | 260.0 | 60.3 | 20.5 | | | |
| 89 | Williams 82 | 2.0 | 0.0 | 256.0 | 31.8 | 10.5 | | | |
| 19 | Davis | 3.8 | 0.0 | 264.0 | 49.3 | 17.3 | | | |
| 83 | CEP 7717 | 3.3 | 0.0 | 253.8 | 51.5 | 25.3 | | | |
| 47 | PK-73-94 | 2.3 | 0.0 | 237.0 | 53.5 | 21.0 | | | |
| 44 | Foster | 3.8 | 0.0 | 271.8 | 43.8 | 33.0 | | | |
| 75 | Braxton | 3.0 | 0.0 | 236.8 | 63.0 | 30.3 | | | |
| 82 | PK-73-86 | 2.3 | 0.0 | 218.3 | 73.5 | 29.5 | | | |
| 77 | ICA L-124 | 2.5 | 0.0 | 242.0 | 37.5 | 29.3 | | | |
| 10 | Improved Pelican | 2.5 ⁽²⁾ | 0.0 ⁽²⁾ | 232.0 ⁽²⁾ | 44.0 ⁽²⁾ | 33.5 | | | |
| 37 | G 2120 | 3.0 ⁽¹⁾ | 0.0 ⁽¹⁾ | 177.0 ⁽¹⁾ | 43.0 ⁽¹⁾ | 65.0 | | | |
| 80 | HM-1 | 3.7 ⁽³⁾ | 0.0 ⁽³⁾ | 217.3 ⁽³⁾ | 37.7 ⁽³⁾ | 37.7 | | | |
| 81 | Ecuador 1 | 4.0 ⁽²⁾ | 0.0 ⁽²⁾ | 175.0 ⁽²⁾ | 34.5 ⁽²⁾ | 36.0 | | | |
| 76 | SIATSA 194 | 3.5 ⁽²⁾ | 0.0 ⁽²⁾ | 182.0 ⁽²⁾ | 38.5 ⁽²⁾ | 31.5 | | | |
| 9 | Jupiter | 3.0 ⁽¹⁾ | 0.0 ⁽¹⁾ | 165.0 ⁽¹⁾ | 21.0 ⁽¹⁾ | 32.0 | | | |
| | Grand mean | 3.0 | 0.0 | 236.8 | 48.2 | 27.5 | | | |
| | Standard error of cultivar mean | 0.9 | 0.0 | 35.3 | 23.1 | 13.0 | | | |
| | Coefficient of variation (%) | 28.7 | 0.0 | 14.9 | 48.0 | 47.3 | | | |
| | 5% LSD Cultivar means (*****=ns) | ***** | 0.0 | ***** | ***** | ***** | | | |

Table 18. Trial 543, 1982

Country: DOMINICAN REPUBLIC Latitude: 18°25'N Zone: 4 Group: A
Region: MESO AMERICA Longitude: 70°06'W Elevation (m): 44
Site: CESDA, SAN CRISTOBAL
Cooperator(s): JESUS CLEMENTE MERCEDES SOLANO, POLIBIO VARGAS RODRIGUEZ
Date planted: September 13, 1982 Date harvested: December 14, 1982
Soil type: pH 8.3, fluventic haplustoll, franca fina, mixta, isohipertemica
Fertilizer used (kg/ha): N 25.0, P 25.0, K 30.0
Total moisture (mm): 326
Number of irrigations: 3

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 89 | Williams 82 | 2,669.3 | 32.5 | 92.0 | 3.5 | 2.0 | 100.0 | 100.0 | 60.4 |
| 77 | ICA L-124 | 2,592.2 | 31.0 | 92.0 | 3.5 | 2.3 | 100.0 | 100.0 | 57.9 |
| 13 | Bossier | 2,558.8 | 27.5 | 92.0 | 2.8 | 2.3 | 100.0 | 100.0 | 38.1 |
| 19 | Davis | 2,517.3 | 31.3 | 92.0 | 3.3 | 2.5 | 100.0 | 100.0 | 32.0 |
| 10 | Improved Pelican | 2,206.3 | 32.5 | 99.3 | 3.8 | 3.0 | 100.0 | 100.0 | 87.8 |
| 2 | UFV-1 | 2,200.4 | 33.0 | 92.0 | 3.3 | 2.5 | 100.0 | 100.0 | 38.0 |
| 76 | SIATSA 194 | 2,173.4 | 32.5 | 92.0 | 3.3 | 2.3 | 100.0 | 100.0 | 93.0 |
| 79 | 71-38 | 1,976.4 | 33.8 | 96.5 | 3.5 | 2.8 | 100.0 | 100.0 | 44.1 |
| 45 | ICA L-109 | 1,899.3 | 36.5 | 97.0 | 3.0 | 2.5 | 100.0 | 100.0 | 77.3 |
| 43 | Alamo | 1,788.2 | 38.8 | 106.8 | 3.3 | 3.0 | 100.0 | 100.0 | 55.3 |
| 46 | Ecuador 2 | 1,699.1 | 32.0 | 102.5 | 4.0 | 2.5 | 100.0 | 100.0 | 64.3 |
| 64 | ICA L-125 | 1,666.4 | 34.0 | 113.3 | 3.3 | 2.3 | 100.0 | 100.0 | 86.9 |
| 40 | IGH 24 | 1,587.6 | 42.0 | 120.5 | 3.8 | 3.3 | 100.0 | 100.0 | 91.0 |
| 39 | IGH 23 | 1,468.0 | 39.3 | 117.3 | 3.5 | 2.8 | 100.0 | 100.0 | 81.5 |
| 78 | ISRA/IRAT 44A/73 | 1,464.3 | 39.8 | 108.5 | 3.0 | 2.0 | 100.0 | 100.0 | 71.0 |
| 9 | Jupiter | 1,081.9 | 41.0 | 113.8 | 3.5 | 2.5 | 100.0 | 100.0 | 78.8 |
| Grand mean | | 1,971.8 | 34.8 | 101.7 | 3.4 | 2.5 | 100.0 | 100.0 | 66.1 |
| Standard error of cultivar mean | | 152.9 | 1.7 | 3.9 | 0.3 | 0.4 | 0.0 | 0.0 | 2.7 |
| Coefficient of variation (%) | | 15.5 | 10.0 | 7.6 | 18.1 | 30.5 | 0.0 | 0.0 | 8.0 |
| 5% LSD Cultivar means (****=ns) | | 435.4 | 5.0 | 11.0 | ***** | ***** | ***** | ***** | 7.6 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 89 | Williams 82 | 1.0 | 1.0 | 175.3 | 29.5 | 8.6 | 14.9 | 1.0 | 89.0 |
| 77 | ICA L-124 | 1.5 | 1.0 | 195.8 | 39.0 | 14.7 | 14.3 | 1.3 | 50.0 |
| 13 | Bossier | 1.3 | 1.0 | 186.3 | 36.0 | 9.8 | 14.2 | 1.3 | 96.0 |
| 19 | Davis | 1.0 | 1.0 | 188.0 | 32.5 | 8.6 | 13.0 | 1.0 | 92.0 |
| 10 | Improved Pelican | 1.5 | 1.0 | 176.5 | 50.3 | 17.6 | 10.0 | 2.0 | 96.0 |
| 2 | UFV-1 | 1.0 | 1.0 | 181.3 | 36.0 | 8.9 | 11.4 | 1.5 | 93.0 |
| 76 | SIATSA 194 | 1.3 | 1.0 | 185.0 | 46.0 | 15.3 | 13.9 | 2.5 | 94.0 |
| 79 | 71-38 | 1.0 | 1.0 | 167.0 | 48.8 | 9.0 | 9.0 | 1.5 | 83.0 |
| 45 | ICA L-109 | 1.0 | 1.0 | 186.3 | 35.5 | 12.0 | 9.2 | 1.0 | 92.0 |
| 43 | Alamo | 1.0 | 1.0 | 194.8 | 33.2 | 11.3 | 9.8 | 1.8 | 95.0 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 156.5 | 33.3 | 12.4 | 9.6 | 1.0 | 74.0 |
| 64 | ICA L-125 | 1.3 | 1.0 | 179.0 | 46.5 | 13.9 | 9.7 | 3.0 | 50.0 |
| 40 | IGH 24 | 1.0 | 1.0 | 169.5 | 47.3 | 20.9 | 8.9 | 3.5 | 69.0 |
| 39 | IGH 23 | 1.3 | 1.0 | 163.5 | 35.7 | 18.4 | 9.4 | 3.0 | 69.0 |
| 78 | ISRA/IRAT 44A/73 | 2.0 | 1.0 | 176.3 | 46.3 | 11.4 | 7.4 | 2.3 | 79.0 |
| 9 | Jupiter | 1.5 | 1.0 | 176.5 | 29.3 | 18.0 | 8.5 | 2.3 | 82.0 |
| Grand mean | | 1.2 | 1.0 | 178.6 | 39.1 | 13.2 | 10.8 | 1.9 | 81.4 |
| Standard error of cultivar mean | | 0.2 | 0.0 | 9.5 | 3.6 | 1.3 | 0.6 | 0.5 | 0.0 |
| Coefficient of variation (%) | | 33.4 | 0.0 | 10.7 | 18.6 | 20.1 | 10.2 | 49.6 | 0.0 |
| 5% LSD Cultivar means (****=ns) | | 0.6 | ***** | ***** | 10.4 | 3.8 | 1.6 | 1.3 | 0.0 |

Table 19. Trial 511, 1982

| | | | | | | | |
|---|--|--------------------|--|------------------------------|--|----------|--|
| Country: ECUADOR | | Latitude: 2°15'S | | Zone: 1 | | Group: A | |
| Region: SOUTH AMERICA | | Longitude: 79°15'W | | Elevation (m): 14 | | | |
| Site: ESTACION EXPERIMENTAL BOLICHE | | | | | | | |
| Cooperator(s): EDUARDO MALDONADO A., EDUARDO CALERO | | | | | | | |
| Date planted: May 12, 1982 | | | | Date harvested: not reported | | | |
| Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0 | | | | | | | |

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 2 | UFV-1 | 2,007.9 | 33.5 | 103.0 | 3.3 | | 91.3 | | 43.8 |
| 79 | 71-38 | 1,827.9 | 34.8 | 110.0 | 3.8 | | 93.8 | | 49.5 |
| 89 | Williams 82 | 1,784.1 | 27.0 | 90.0 | 3.0 | | 87.5 | | 57.3 |
| 46 | Ecuador 2 | 1,720.3 | 34.0 | 103.0 | 3.3 | | 96.3 | | 56.0 |
| 40 | IGH 24 | 1,591.6 | 46.0 | 110.0 | 4.0 | | 91.3 | | 79.3 |
| 77 | ICA L-124 | 1,566.6 | 33.0 | 103.0 | 3.0 | | 98.8 | | 69.0 |
| 44 | Foster | 1,512.8 | 27.0 | 90.0 | 3.3 | | 93.8 | | 33.8 |
| 45 | ICA L-109 | 1,502.0 | 36.8 | 110.0 | 2.3 | | 97.5 | | 88.3 |
| 43 | Alamo | 1,499.1 | 41.0 | 110.0 | 3.8 | | 93.8 | | 54.8 |
| 64 | ICA L-125 | 1,485.3 | 34.0 | 110.0 | 3.5 | | 88.8 | | 73.0 |
| 10 | Improved Pelican | 1,461.5 | 33.5 | 110.0 | 3.3 | | 92.5 | | 85.3 |
| 19 | Davis | 1,316.1 | 28.5 | 103.0 | 3.0 | | 93.8 | | 40.0 |
| 78 | ISRA/IRAT 44A/73 | 1,255.7 | 40.0 | 110.0 | 2.3 | | 92.5 | | 68.3 |
| 9 | Jupiter | 1,103.6 | 46.0 | 110.0 | 3.8 | | 80.0 | | 84.5 |
| 39 | IGH 23 | 1,013.5 | 46.0 | 110.0 | 4.0 | | 95.0 | | 85.5 |
| 76 | SIATSA 194 | 914.4 | 41.0 | 110.0 | 1.5 | | 93.8 | | 109.8 |
| Grand mean | | 1,472.6 | 36.4 | 105.8 | 3.2 | | 92.5 | | 67.4 |
| Standard error of cultivar mean | | 185.7 | 1.1 | 0.0 | 0.5 | | 4.4 | | 5.1 |
| Coefficient of variation (%) | | 25.2 | 5.8 | 0.0 | 30.4 | | 9.5 | | 15.2 |
| 5% LSD Cultivar means (*****=ns) | | 529.0 | 3.0 | 0.0 | 1.4 | | ***** | | 14.5 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 2 | UFV-1 | 1.0 | 1.5 | 163.8 | 23.3 | 10.8 | 19.8 | 2.5 | 90.0 |
| 79 | 71-38 | 1.3 | 1.5 | 160.5 | 40.0 | 11.5 | 13.3 | 2.0 | 94.3 |
| 89 | Williams 82 | 1.5 | 1.0 | 173.0 | 20.5 | 10.0 | 19.1 | 2.8 | 95.8 |
| 46 | Ecuador 2 | 1.5 | 1.0 | 174.0 | 33.0 | 16.0 | 17.7 | 2.8 | 92.8 |
| 40 | IGH 24 | 1.8 | 1.0 | 176.8 | 48.0 | 18.5 | 16.4 | 2.5 | 93.5 |
| 77 | ICA L-124 | 1.5 | 1.3 | 171.0 | 33.0 | 17.3 | 21.2 | 3.0 | 86.5 |
| 44 | Foster | 1.0 | 1.0 | 181.5 | 24.8 | 8.0 | 17.0 | 2.3 | 91.3 |
| 45 | ICA L-109 | 2.5 | 1.5 | 154.0 | 41.5 | 13.0 | 13.6 | 2.5 | 92.5 |
| 43 | Alamo | 2.0 | 1.8 | 154.0 | 27.3 | 13.3 | 16.1 | 2.0 | 96.5 |
| 64 | ICA L-125 | 1.8 | 1.0 | 169.0 | 43.5 | 11.8 | 14.6 | 2.8 | 94.3 |
| 10 | Improved Pelican | 2.0 | 1.8 | 157.3 | 34.0 | 15.3 | 14.4 | 2.0 | 96.5 |
| 19 | Davis | 1.0 | 1.5 | 155.5 | 25.8 | 9.5 | 20.6 | 2.8 | 85.5 |
| 78 | ISRA/IRAT 44A/73 | 3.3 | 2.5 | 169.0 | 36.5 | 14.0 | 13.4 | 3.0 | 93.8 |
| 9 | Jupiter | 1.8 | 1.8 | 150.8 | 31.8 | 16.5 | 17.8 | 2.3 | 92.5 |
| 39 | IGH 23 | 2.0 | 1.5 | 150.8 | 28.8 | 15.3 | 17.0 | 3.0 | 94.5 |
| 76 | SIATSA 194 | 4.0 | 3.3 | 171.0 | 30.0 | 18.8 | 19.1 | 3.0 | 95.3 |
| Grand mean | | 1.9 | 1.6 | 164.5 | 32.6 | 13.7 | 17.0 | 2.6 | 92.8 |
| Standard error of cultivar mean | | 0.4 | 0.2 | 8.2 | 3.9 | 1.4 | 0.6 | 0.2 | 0.9 |
| Coefficient of variation (%) | | 38.7 | 29.2 | 10.0 | 24.0 | 20.1 | 6.8 | 16.7 | 1.9 |
| 5% LSD Cultivar means (*****=ns) | | 1.0 | 0.6 | ***** | 11.2 | 3.9 | 1.6 | 0.6 | 2.6 |

Table 20. Trial 512, 1982

Country: ECUADOR Latitude: 2°15'S Zone: 1 Group: A
 Region: SOUTH AMERICA Longitude: 79°38'W Elevation (m): 14
 Site: ESTACION EXPERIMENTAL PICHILINGUE
 Cooperator(s): EDUARDO MALDONADO A., EDUARDO CALERO
 Date planted: June 7, 1982 Date harvested: October 8, 1982
 Total moisture (mm): 81
 Substituted cultivar(s): INIAP-302

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 76 | SIATSA 194 | 2,458.8 | 43.0 | 99.0 | 1.0 | 1.5 | 78.8 | 88.8 | 111.8 |
| 79 | 71-38 | 2,361.3 | 38.0 | 99.0 | 2.3 | 2.0 | 78.8 | 90.0 | 44.0 |
| 45 | ICA L-109 | 2,230.5 | 47.0 | 113.0 | 2.0 | 1.0 | 97.5 | 98.8 | 85.3 |
| 19 | Davis | 2,115.8 | 35.0 | 90.0 | 1.3 | 1.5 | 90.0 | 90.0 | 38.0 |
| 77 | ICA L-124 | 2,047.9 | 36.0 | 92.0 | 2.0 | 3.3 | 88.8 | 96.3 | 55.3 |
| 89 | Williams 82 | 1,966.6 | 30.0 | 78.0 | 2.0 | 2.0 | 96.3 | 87.5 | 50.0 |
| 78 | ISRA/IRAT 44A/73 | 1,936.6 | 43.0 | 99.0 | 1.0 | 1.5 | 91.3 | 97.5 | 74.0 |
| 2 | UFV-1 | 1,894.1 | 36.0 | 103.3 | 1.3 | 1.5 | 61.3 | 88.8 | 44.3 |
| 9 | Jupiter | 1,883.3 | 47.0 | 106.0 | 2.0 | 2.0 | 87.5 | 96.3 | 81.5 |
| 64 | ICA L-125 | 1,792.4 | 38.0 | 113.0 | 1.5 | 1.0 | 87.5 | 92.5 | 98.5 |
| 43 | Alamo | 1,761.6 | 45.0 | 102.0 | 1.8 | 2.0 | 96.3 | 93.8 | 55.0 |
| 46 | Ecuador 2 | 1,731.2 | 38.0 | 99.0 | 2.3 | 2.3 | 92.5 | 98.8 | 63.5 |
| 39 | IGH 23 | 1,694.5 | 48.5 | 108.5 | 2.3 | 1.5 | 97.5 | 90.0 | 93.0 |
| 250 | INIAP 302 | 1,658.3 | 47.0 | 113.0 | 1.5 | 1.5 | 93.8 | 86.3 | 84.3 |
| 44 | Foster | 1,390.3 | 30.0 | 78.5 | 1.3 | 1.5 | 90.0 | 90.0 | 34.3 |
| 40 | IGH 24 | 1,251.9 | 52.0 | 113.0 | 1.5 | 2.0 | 93.8 | 93.8 | 92.0 |
| Grand mean | | 1,886.0 | 40.8 | 100.4 | 1.7 | 1.8 | 88.8 | 92.4 | 69.0 |
| Standard error of cultivar mean | | 137.9 | 0.2 | 0.7 | 0.4 | 0.5 | 6.9 | 3.6 | 3.2 |
| Coefficient of variation (%) | | 14.6 | 1.1 | 1.4 | 48.0 | 52.1 | 15.5 | 7.7 | 9.2 |
| 5% LSD Cultivar means (****=ns) | | 392.8 | 0.6 | 2.0 | **** | **** | 19.6 | **** | 9.1 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 76 | SIATSA 194 | 3.8 | 2.0 | 173.8 | 35.5 | 20.0 | 19.4 | 2.3 | 94.8 |
| 79 | 71-38 | 1.0 | 2.0 | 188.5 | 37.5 | 11.0 | 13.4 | 1.3 | 95.8 |
| 45 | ICA L-109 | 2.0 | 1.0 | 160.0 | 47.0 | 11.0 | 12.7 | 2.3 | 80.0 |
| 19 | Davis | 1.0 | 1.5 | 178.0 | 24.8 | 10.8 | 17.2 | 1.8 | 91.8 |
| 77 | ICA L-124 | 1.0 | 1.0 | 152.5 | 26.8 | 12.8 | 21.9 | 2.8 | 96.5 |
| 89 | Williams 82 | 1.0 | 1.3 | 173.5 | 22.0 | 10.0 | 20.3 | 2.3 | 95.0 |
| 78 | ISRA/IRAT 44A/73 | 4.0 | 1.8 | 163.3 | 47.3 | 13.5 | 13.2 | 2.3 | 88.5 |
| 2 | UFV-1 | 1.0 | 1.0 | 192.8 | 26.3 | 12.3 | 17.3 | 1.5 | 94.8 |
| 9 | Jupiter | 3.0 | 1.0 | 155.8 | 36.3 | 14.5 | 18.1 | 3.5 | 84.0 |
| 64 | ICA L-125 | 3.8 | 1.0 | 170.3 | 44.8 | 15.5 | 14.3 | 3.8 | 93.0 |
| 43 | Alamo | 3.8 | 1.0 | 156.8 | 26.8 | 12.5 | 15.5 | 3.0 | 57.3 |
| 46 | Ecuador 2 | 1.3 | 1.0 | 161.5 | 33.3 | 13.5 | 16.6 | 2.3 | 76.3 |
| 39 | IGH 23 | 3.8 | 1.0 | 149.8 | 45.3 | 16.3 | 17.9 | 3.5 | 88.0 |
| 250 | INIAP 302 | 2.3 | 1.0 | 163.8 | 29.8 | 16.0 | 18.0 | 3.0 | 85.5 |
| 44 | Foster | 1.0 | 1.0 | 171.5 | 22.3 | 10.8 | 16.5 | 2.0 | 97.3 |
| 40 | IGH 24 | 3.8 | 1.0 | 155.5 | 35.3 | 16.0 | 14.3 | 2.5 | 89.0 |
| Grand mean | | 2.3 | 1.2 | 166.7 | 33.8 | 13.5 | 16.7 | 2.5 | 88.0 |
| Standard error of cultivar mean | | 0.3 | 0.2 | 4.6 | 2.2 | 0.7 | 0.8 | 0.3 | 7.4 |
| Coefficient of variation (%) | | 28.2 | 23.9 | 5.6 | 13.2 | 10.8 | 9.4 | 21.0 | 16.8 |
| 5% LSD Cultivar means (****=ns) | | 0.9 | 0.4 | 13.2 | 6.3 | 2.1 | 2.2 | 0.7 | 21.0 |

Table 21. Trial 707, 1982

Country: EGYPT Latitude: 30°N Zone: 7 Group: B
Region: AFRICA Longitude: 31°E Elevation (m): 20
Site: SHALAKAN, KALUBIA NATIONAL RESEARCH CENTRE
Cooperator(s): NARIH I. ASHOUR
Date planted: May 4, 1982 Date harvested: September 12, 1982
Soil type: loam 57.2%, silt 10.2%, clay 32.2%, pH 7.8, loamy clay loam
Fertilizer used (kg/ha): N 40.0, P 31.7, K 49.8
Total moisture (mm): 895
Number of irrigations: 8 (800 mm)
Substituted cultivar(s): Clark 63, Williams 79, Columbus

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 66 | Clark 63 | 1,812.6 | 33.3 | 127.0 | 3.3 | 3.0 | 100.0 | 56.3 | 95.0 |
| 89 | Williams 82 | 1,507.1 | 31.5 | 123.8 | 1.0 | 2.8 | 100.0 | 75.0 | 107.3 |
| 32 | Columbus | 1,266.3 | 35.8 | 153.0 | 3.0 | 3.0 | 100.0 | 80.0 | 112.8 |
| 58 | Williams 79 | 1,224.6 | 33.5 | 130.8 | 3.8 | 4.3 | 100.0 | 68.8 | 97.3 |
| 44 | Foster | 81.5 | 78.8 | 228.5 | 1.8 | 4.0 | 100.0 | 28.8 | 104.5 |
| 76 | SIATSA 194 | 37.0 | 110.0 | 216.8 | 2.5 | 2.0 | 100.0 | 35.0 | 140.0 |
| 10 | Improved Pelican | 30.6 | 111.8 | 210.8 | 3.8 | 3.5 | 100.0 | 32.5 | 156.8 |
| 9 | Jupiter | 30.1 | 118.0 | 212.3 | 2.5 | 1.3 | 100.0 | 35.0 | 161.5 |
| 69 | Essex | 25.5 | 60.3 | 193.5 | 1.8 | 1.0 | 100.0 | 35.0 | 93.5 |
| 75 | Braxton | 23.6 | 80.0 | 228.8 | 1.0 | 1.0 | 100.0 | 40.0 | 121.3 |
| 19 | Davis | 22.2 | 80.3 | 216.0 | 1.5 | 1.0 | 100.0 | 31.3 | 108.8 |
| 83 | CEP 7717 | 20.4 | 76.3 | 199.3 | 4.0 | 2.8 | 100.0 | 35.0 | 102.3 |
| 81 | Ecuador 1 | 18.5 | 114.3 | 207.5 | 1.0 | 1.3 | 100.0 | 41.3 | 119.5 |
| 77 | ICA L-124 | 17.6 | 74.5 | 214.5 | 1.8 | 1.0 | 100.0 | 35.0 | 104.5 |
| 43 | Alamo | 16.2 | 114.8 | 210.5 | 3.8 | 1.3 | 100.0 | 31.3 | 117.3 |
| 82 | PK-73-86 | 16.2 | 95.3 | 225.8 | 4.3 | 3.0 | 100.0 | 28.8 | 102.5 |
| Grand mean | | 384.4 | 78.0 | 193.7 | 2.5 | 2.3 | 100.0 | 43.1 | 115.3 |
| Standard error of cultivar mean | | 301.1 | 1.8 | 5.1 | 0.6 | 0.3 | 0.0 | 5.7 | 8.3 |
| Coefficient of variation (%) | | 156.7 | 4.6 | 5.3 | 47.7 | 27.0 | 0.0 | 26.4 | 14.4 |
| 5% LSD Cultivar means (*****=ns) | | 857.5 | 5.2 | 14.6 | 1.7 | 0.9 | ***** | 16.2 | 23.7 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 66 | Clark 63 | 3.3 | 1.0 | 97.5 | 55.3 | 10.8 | 16.1 | 2.0 | 75.5 |
| 89 | Williams 82 | 1.0 | 1.3 | 154.5 | 53.3 | 10.0 | 15.8 | 2.3 | 86.3 |
| 32 | Columbus | 3.5 | 2.0 | 89.8 | 75.0 | 6.8 | 15.0 | 2.3 | 79.8 |
| 58 | Williams 79 | 1.0 | 2.3 | 107.8 | 48.0 | 7.3 | 17.0 | 2.0 | 82.0 |
| 44 | Foster | 3.5 | 1.3 | 93.5 | 63.5 | 8.5 | 17.7 | 2.5 | 66.5 |
| 76 | SIATSA 194 | 4.0 | 1.8 | 99.8 | 48.0 | 11.5 | 14.9 | 3.0 | 73.5 |
| 10 | Improved Pelican | 3.3 | 1.5 | 72.5 | 67.0 | 11.5 | 15.7 | 3.8 | 55.3 |
| 9 | Jupiter | 3.5 | 2.8 | 77.0 | 38.0 | 12.3 | 16.5 | 4.3 | 56.0 |
| 69 | Essex | 3.8 | 2.5 | 86.5 | 51.3 | 8.3 | 15.0 | 4.5 | 38.5 |
| 75 | Braxton | 3.0 | 1.5 | 96.3 | 84.3 | 9.3 | 15.7 | 4.3 | 61.3 |
| 19 | Davis | 4.0 | 2.0 | 87.0 | 53.0 | 8.8 | 14.1 | 4.3 | 45.0 |
| 83 | CEP 7717 | 4.3 | 1.5 | 69.0 | 37.5 | 8.8 | 14.7 | 4.0 | 51.8 |
| 81 | Ecuador 1 | 3.0 | 1.8 | 74.0 | 53.8 | 11.3 | 13.2 | 4.3 | 59.8 |
| 77 | ICA L-124 | 4.3 | 2.3 | 93.5 | 31.5 | 8.0 | 14.9 | 3.5 | 57.0 |
| 43 | Alamo | 3.8 | 2.5 | 83.5 | 42.8 | 11.5 | 15.8 | 3.5 | 50.8 |
| 82 | PK-73-86 | 3.0 | 2.8 | 105.3 | 42.5 | 8.3 | 15.0 | 3.5 | 70.3 |
| Grand mean | | 3.3 | 1.9 | 93.0 | 52.8 | 9.5 | 15.4 | 3.4 | 63.1 |
| Standard error of cultivar mean | | 0.3 | 0.5 | 13.6 | 7.6 | 1.3 | 1.0 | 0.5 | 7.3 |
| Coefficient of variation (%) | | 16.8 | 54.1 | 29.2 | 28.6 | 28.0 | 12.7 | 30.6 | 23.1 |
| 5% LSD Cultivar means (*****=ns) | | 0.8 | ***** | 38.7 | 21.5 | ***** | ***** | 1.5 | 20.8 |

Table 22. Trial 801, 1982

Country: EGYPT Latitude: 30°N Zone: 7 Group: C
Region: AFRICA Longitude: 30°E Elevation (m): 30
Site: SHALAKAN, CAIRO
Cooperator(s): E. K. ALLAM, S. A. ZAKY, OLFAT EL-BAGOURY
Date planted: not reported Date harvested: not reported

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 88 | Lakota | 3,753.8 | 38.0 | 83.8 | 2.0 | 1.5 | 62.5 | 71.3 | 84.4 |
| 74 | Pella | 2,473.1 | 38.0 | 91.0 | 1.8 | 1.3 | 67.5 | 82.5 | 101.3 |
| 86 | Fayette | 1,899.0 | 39.0 | 87.0 | 1.8 | 1.3 | 78.8 | 92.5 | 108.0 |
| 70 | Hardin | 1,863.2 | 38.5 | 81.3 | 1.8 | 1.5 | 52.5 | 86.3 | 75.9 |
| 87 | Clay | 1,814.8 | 38.5 | 92.0 | 2.0 | 1.5 | 67.5 | 88.8 | 47.8 |
| 69 | Essex | 1,801.5 | 71.3 | 115.8 | 1.5 | 1.5 | 76.3 | 91.3 | 99.4 |
| 89 | Williams 82 | 1,727.3 | 39.8 | 81.5 | 1.8 | 1.3 | 76.3 | 88.8 | 102.7 |
| 35 | Crawford | 1,718.2 | 48.8 | 95.8 | 2.0 | 1.5 | 71.3 | 77.5 | 125.0 |
| 60 | Kent | 1,689.8 | 46.3 | 88.5 | 1.8 | 1.5 | 62.5 | 81.3 | 108.2 |
| 85 | Pixie | 1,592.3 | 44.0 | 87.3 | 1.5 | 1.3 | 72.5 | 87.5 | 73.7 |
| 72 | Amcor | 1,393.2 | 39.0 | 80.3 | 1.8 | 1.0 | 77.5 | 95.0 | 84.8 |
| 36 | Evans | 1,308.2 | 38.0 | 82.8 | 1.5 | 1.3 | 78.8 | 83.8 | 61.4 |
| 73 | Century | 1,201.6 | 38.5 | 79.8 | 1.3 | 1.0 | 73.8 | 97.5 | 81.3 |
| 71 | Hodgson 78 | 1,195.7 | 38.8 | 85.0 | 1.5 | 1.5 | 80.0 | 92.5 | 63.0 |
| 57 | Corsoy 79 | 1,187.4 | 38.3 | 80.3 | 1.8 | 1.3 | 68.8 | 81.3 | 72.1 |
| 84 | Sparks | 942.4 | 38.3 | 86.5 | 1.5 | 1.3 | 78.8 | 92.5 | 97.2 |
| Grand mean | | 1,722.6 | 42.1 | 87.4 | 1.7 | 1.3 | 71.6 | 86.9 | 86.6 |
| Standard error of cultivar mean | | 498.8 | 0.7 | 4.0 | 0.3 | 0.3 | 8.7 | 5.5 | 6.1 |
| Coefficient of variation (%) | | 57.9 | 3.2 | 9.1 | 34.1 | 39.2 | 24.3 | 12.6 | 14.0 |
| 5% LSD Cultivar means (****=ns) | | **** | 1.9 | 11.3 | **** | **** | **** | **** | 17.2 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 88 | Lakota | 1.0 | 1.0 | 81.8 | 43.0 | 8.3 | 19.0 | | |
| 74 | Pella | 1.0 | 1.0 | 76.8 | 37.5 | 7.3 | 19.1 | | |
| 86 | Fayette | 1.3 | 1.0 | 95.0 | 60.7 | 10.2 | 19.2 | | |
| 70 | Hardin | 1.0 | 1.0 | 86.8 | 32.8 | 9.4 | 18.5 | | |
| 87 | Clay | 1.0 | 1.0 | 80.5 | 22.6 | 4.1 | 15.9 | | |
| 69 | Essex | 1.3 | 1.0 | 80.0 | 42.0 | 10.1 | 17.3 | | |
| 89 | Williams 82 | 1.0 | 1.0 | 82.5 | 56.3 | 8.8 | 19.3 | | |
| 35 | Crawford | 1.0 | 1.0 | 81.0 | 39.3 | 13.1 | 22.4 | | |
| 60 | Kent | 1.3 | 1.0 | 80.5 | 57.3 | 12.3 | 19.1 | | |
| 85 | Pixie | 1.0 | 1.0 | 75.8 | 45.7 | 6.3 | 22.5 | | |
| 72 | Amcor | 1.0 | 1.0 | 66.3 | 25.5 | 8.5 | 20.5 | | |
| 36 | Evans | 1.0 | 1.0 | 81.0 | 39.5 | 4.6 | 15.9 | | |
| 73 | Century | 1.0 | 1.0 | 85.3 | 55.1 | 12.8 | 16.2 | | |
| 71 | Hodgson 78 | 1.0 | 1.0 | 82.0 | 20.4 | 7.1 | 19.1 | | |
| 57 | Corsoy 79 | 1.0 | 1.0 | 76.3 | 40.6 | 6.4 | 16.9 | | |
| 84 | Sparks | 1.3 | 1.0 | 86.8 | 30.9 | 11.3 | 20.4 | | |
| Grand mean | | 1.1 | 1.0 | 81.1 | 40.6 | 8.8 | 18.8 | | |
| Standard error of cultivar mean | | 0.1 | 0.0 | 9.1 | 9.1 | 1.6 | 3.0 | | |
| Coefficient of variation (%) | | 22.7 | 0.0 | 22.4 | 44.8 | 35.5 | 15.8 | | |
| 5% LSD Cultivar means (****=ns) | | **** | **** | **** | 25.9 | 4.4 | **** | | |

Table 23. Trial 504, 1982

Country: FRENCH GUIANA Latitude: 4°50'N Zone: 1 Group: A
Region: SOUTH AMERICA Longitude: 52°18'W Elevation (m): 7
Site: CABASSOU
Cooperator(s): PHILIPPE GODON
Date planted: April 28, 1982 Date harvested: July 23, 1982
Soil type: loam 47%, silt 10%, clay 43%, pH 4.98, ferralsol
Fertilizer used (kg/ha): N 35.0, P 66.0, K 83.0
Total moisture (mm): 1,193
Substituted cultivar(s): ISRA/IRAT 26/72

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|---------------------|-----------------|--------------------|---------------|---------------------|---------------------|
| 78 | ISRA/IRAT 44A/73 | 3,169.4 | 36.0 | 102.0 | 3.3 | 2.0 | 95.0 | 86.3 | 80.8 |
| 46 | Ecuador 2 | 3,036.0 | 34.0 | 98.5 | 4.0 | 3.3 | 100.0 | 68.8 | 61.0 |
| 9 | Jupiter | 2,979.8 | 37.5 | 103.5 | 4.0 | 2.3 | 91.3 | 83.8 | 79.5 |
| 2 | UFV-1 | 2,969.3 | 31.3 | 93.0 | 4.0 | 2.8 | 96.3 | 63.8 | 59.8 |
| 40 | IGH 24 | 2,915.2 | 41.5 | 108.8 | 4.0 | 2.5 | 97.5 | 80.0 | 89.3 |
| 39 | IGH 23 | 2,877.7 | 38.3 | 101.3 | 3.5 | 3.0 | 91.3 | 93.8 | 65.3 |
| 45 | ICA L-109 | 2,677.6 | 39.0 | 100.0 | 4.0 | 2.5 | 93.8 | 90.0 | 84.5 |
| 19 | Davis | 2,563.0 | 27.0 | 89.8 | 4.0 | 3.0 | 82.5 | 85.0 | 34.3 |
| 221 | ISRA/IRAT 26/72 | 2,473.4 | 40.3 | 100.0 | 3.8 | 2.3 | 93.8 | 77.5 | 78.5 |
| 79 | 71-38 | 2,427.6 | 36.0 | 102.3 | 3.5 | 2.0 | 86.3 | 86.3 | 48.3 |
| 76 | SIATSA 194 | 2,404.7 | 37.5 | 98.5 | 3.0 | 1.0 ⁽³⁾ | 87.5 | 95.0 ⁽³⁾ | 92.0 |
| 77 | ICA L-124 | 2,308.8 | 29.8 | 93.8 | 4.0 | 2.5 | 88.8 | 86.3 | 58.5 |
| 43 | Alamo | 2,259.6 | 36.8 | 101.8 | 4.0 | 3.0 | 95.0 | 91.3 | 53.8 |
| 44 | Foster | 1,898.3 | 25.0 | 86.0 | 4.0 | 2.5 | 86.3 | 63.8 | 38.3 |
| 89 | Williams 82 | 1,792.0 | 28.8 | 81.0 ⁽³⁾ | 2.8 | 1.7 ⁽³⁾ | 73.8 | 73.3 ⁽³⁾ | 52.3 ⁽³⁾ |
| 64 | ICA L-125 | 946.0 | 40.3 | 143.0 | 3.5 | 2.0 | 96.3 | 83.8 | 138.0 |
| Grand mean | | 2,481.1 | 34.9 | 100.5 | 3.7 | 2.4 | 90.9 | 81.7 | 69.9 |
| Standard error of cultivar mean | | 281.7 | 1.0 | 13.9 | 0.3 | 1.0 | 4.4 | 14.4 | 27.5 |
| Coefficient of variation (%) | | 22.7 | 5.6 | 13.8 | 15.4 | 42.0 | 9.7 | 17.7 | 39.3 |
| 5% LSD Cultivar means (****=ns) | | 802.5 | 2.8 | **** | 0.8 | **** | 12.6 | **** | **** |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|------------------|--------------------|--------------------|----------------------|---------------------|---------------------|---------------------|--------------------|---------------------|
| 78 | ISRA/IRAT 44A/73 | 1.0 | 1.3 | 312.3 | 34.3 | 13.5 | 16.0 | 2.3 | 78.0 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 347.8 | 21.8 | 19.3 | 17.9 | 2.5 | 61.8 |
| 9 | Jupiter | 1.5 | 1.0 | 306.8 | 22.8 | 16.5 | 19.9 | 2.5 | 78.5 |
| 2 | UFV-1 | 1.0 | 1.0 | 353.3 | 18.3 | 19.3 | 17.3 | 1.3 | 77.3 |
| 40 | IGH 24 | 1.3 | 1.0 | 274.0 | 25.5 | 16.5 | 16.8 | 2.0 | 60.8 |
| 39 | IGH 23 | 1.3 | 1.0 | 271.8 | 26.8 | 24.8 | 18.4 | 1.8 | 79.3 |
| 45 | ICA L-109 | 1.0 | 1.0 | 289.3 | 35.3 | 18.0 | 11.8 | 1.3 | 78.8 |
| 19 | Davis | 1.0 | 1.0 | 282.5 | 19.0 | 10.5 | 20.7 | 1.3 | 42.8 |
| 221 | ISRA/IRAT 26/72 | 1.3 | 1.0 | 267.8 | 26.8 | 22.3 | 16.8 | 1.5 | 82.8 |
| 79 | 71-38 | 1.0 | 1.0 | 248.0 | 29.0 | 13.3 | 13.2 | 3.3 | 37.3 |
| 76 | SIATSA 194 | 1.8 | 1.3 | 239.3 | 24.3 | 21.3 | 20.3 | 2.3 | 62.5 |
| 77 | ICA L-124 | 1.0 | 1.0 | 250.8 | 21.3 | 13.5 | 21.0 | 1.8 | 69.5 |
| 43 | Alamo | 1.3 | 1.0 | 252.8 | 21.3 | 19.5 | 17.4 | 3.0 | 52.8 |
| 44 | Foster | 1.0 | 1.5 | 358.3 | 20.5 | 11.0 | 17.3 | 3.3 | 20.3 |
| 89 | Williams 82 | 1.0 ⁽³⁾ | 2.0 ⁽³⁾ | 298.0 ⁽³⁾ | 14.7 ⁽³⁾ | 13.0 ⁽³⁾ | 21.6 ⁽³⁾ | 3.0 ⁽³⁾ | 30.3 ⁽³⁾ |
| 64 | ICA L-125 | 2.0 | 1.0 | 250.3 | 30.8 | 29.3 | 14.2 | 5.0 | 8.5 |
| Grand mean | | 1.2 | 1.1 | 287.5 | 24.7 | 17.7 | 17.5 | 2.4 | 58.0 |
| Standard error of cultivar mean | | 0.5 | 0.3 | 57.6 | 8.4 | 5.9 | 3.3 | 1.3 | 26.0 |
| Coefficient of variation (%) | | 37.0 | 28.5 | 20.0 | 34.0 | 33.2 | 18.7 | 53.6 | 44.8 |
| 5% LSD Cultivar means (****=ns) | | **** | **** | **** | **** | **** | **** | **** | **** |

Table 24. Trial 507, 1982

Country: GABON Latitude: 0°05'N Zone: 1 Group: A
 Region: AFRICA Longitude: 9°45'E Elevation (m): 18
 Site: CIAM PROJECT, NTOUIL
 Cooperator(s): G. VAN DE PLAS, L. B. NETY
 Date planted: April 2, 1982 Date harvested: August 1982
 Soil type: pH 5.0
 Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
 Total moisture (mm): 276
 Number of irrigations: 2 (30 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 2 | UFV-1 | 1,533.6 | 39.0 | 123.0 | 1.0 | 1.0 | 100.0 | 92.8 | 66.7 |
| 76 | SIATSA 194 | 1,435.7 | 39.0 | 127.0 | 1.0 | 1.0 | 100.0 | 97.5 | 63.1 |
| 9 | Jupiter | 1,396.1 | 47.0 | 127.0 | 1.0 | 1.0 | 100.0 | 93.0 | 61.3 |
| 46 | Ecuador 2 | 1,350.3 | 39.0 | 127.0 | 1.0 | 1.0 | 100.0 | 97.8 | 64.1 |
| 77 | ICA L-124 | 1,321.1 | 39.0 | 127.0 | 1.0 | 1.0 | 100.0 | 97.5 | 56.3 |
| 39 | IGH 23 | 1,275.3 | 47.0 | 141.0 | 1.0 | 1.0 | 100.0 | 89.8 | 70.2 |
| 78 | ISRA/IRAT 44A/73 | 1,231.5 | 41.0 | 126.0 | 1.0 | 1.0 | 100.0 | 96.3 | 62.0 |
| 40 | IGH 24 | 1,223.2 | 47.0 | 141.0 | 1.0 | 1.0 | 100.0 | 94.5 | 63.3 |
| 10 | Improved Pelican | 1,219.0 | 39.0 | 116.0 | 1.0 | 1.0 | 100.0 | 92.8 | 60.7 |
| 43 | Alamo | 1,137.7 | 41.0 | 126.0 | 1.0 | 1.0 | 100.0 | 97.5 | 71.1 |
| 44 | Foster | 1,133.6 | 34.5 | 116.0 | 1.0 | 1.0 | 100.0 | 95.3 | 63.0 |
| 19 | Davis | 1,131.5 | 34.0 | 116.0 | 1.0 | 1.0 | 100.0 | 88.8 | 53.9 |
| 89 | Williams 82 | 1,008.5 | 38.0 | 116.0 | 1.0 | 1.0 | 100.0 | 97.0 | 64.9 |
| 64 | ICA L-125 | 989.8 | 41.0 | 141.0 | 1.0 | 1.0 | 100.0 | 95.3 | 71.9 |
| 45 | ICA L-109 | 954.4 | 47.0 | 141.0 | 1.0 | 1.0 | 100.0 | 91.5 | 48.1 |
| 79 | 71-38 | 787.7 | 41.0 | 123.0 | 1.0 | 1.0 | 100.0 | 95.0 | 52.6 |
| Grand mean | | 1,195.6 | 40.8 | 127.1 | 1.0 | 1.0 | 100.0 | 94.5 | 62.1 |
| Standard error of cultivar mean | | 127.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 2.8 | 6.4 |
| Coefficient of variation (%) | | 21.3 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 5.9 | 20.8 |
| 5% LSD Cultivar means (****=ns) | | 362.0 | 0.4 | 0.0 | ***** | ***** | ***** | ***** | ***** |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 2 | UFV-1 | | | 111.5 | 18.8 | 9.9 | 14.0 | | 95.5 |
| 76 | SIATSA 194 | | | 111.5 | 18.5 | 11.0 | 15.4 | | 92.5 |
| 9 | Jupiter | | | 108.0 | 18.8 | 10.5 | 16.1 | | 94.5 |
| 46 | Ecuador 2 | | | 108.0 | 19.2 | 8.7 | 15.0 | | 91.0 |
| 77 | ICA L-124 | | | 107.3 | 17.8 | 10.0 | 15.7 | | 89.0 |
| 39 | IGH 23 | | | 108.8 | 16.6 | 11.5 | 16.8 | | 96.5 |
| 78 | ISRA/IRAT 44A/73 | | | 108.0 | 19.1 | 9.5 | 16.0 | | 88.5 |
| 40 | IGH 24 | | | 108.5 | 18.5 | 11.1 | 12.2 | | 94.0 |
| 10 | Improved Pelican | | | 107.0 | 18.9 | 8.4 | 15.2 | | 93.5 |
| 43 | Alamo | | | 109.3 | 18.3 | 10.0 | 17.1 | | 97.5 |
| 44 | Foster | | | 108.5 | 19.8 | 10.0 | 14.7 | | 97.5 |
| 19 | Davis | | | 112.8 | 18.0 | 11.8 | 16.0 | | 97.0 |
| 89 | Williams 82 | | | 107.8 | 19.7 | 10.5 | 14.8 | | 87.5 |
| 64 | ICA L-125 | | | 106.8 | 20.6 | 9.9 | 14.4 | | 92.5 |
| 45 | ICA L-109 | | | 105.5 | 18.9 | 11.6 | 15.1 | | 86.5 |
| 79 | 71-38 | | | 103.0 | 17.7 | 11.1 | 15.1 | | 63.5 |
| Grand mean | | | | 108.3 | 18.7 | 10.3 | 15.2 | | 91.1 |
| Standard error of cultivar mean | | | | 2.2 | 1.1 | 1.0 | 1.3 | | 3.7 |
| Coefficient of variation (%) | | | | 4.0 | 11.2 | 20.1 | 16.6 | | 8.1 |
| 5% LSD Cultivar means (****=ns) | | | | ***** | ***** | ***** | ***** | | 10.5 |

Table 25. Trial 574, 1982

Country: GABON

Latitude: 2°03'S

Zone: 1 Group: A

Region: AFRICA

Longitude: 12°E

Elevation (m): 200

Site: LEBAMBA

Cooperator(s): R. RAVOAVY, MR. MCINTYRE, V. DUPONT

Date planted: November 23, 1982

Date harvested: March 25, 1983

Fertilizer used (kg/ha): N 20.0, P 28.6, K 33.2

Total moisture (mm): 953

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|---------------------------------|------------------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 76 | SIATSA 194 | 1,442.0 ⁽¹⁾ | 36.5 | 86.0 | | | | | 60.5 |
| 79 | 71-38 | 966.9 ⁽¹⁾ | 33.0 | 95.0 | | | | | 31.3 |
| 40 | IGH 24 | 960.6 | 38.0 | 99.0 | | | | | 50.0 |
| 9 | Jupiter | 860.6 | 38.0 | 92.0 | | | | | 47.5 |
| 78 | ISRA/IRAT 44A/73 | 783.5 ⁽¹⁾ | 34.0 | 87.0 | | | | | 46.8 |
| 64 | ICA L-125 | 714.7 | 36.0 | 117.0 | | | | | 76.0 |
| 10 | Improved Pelican | 700.1 ⁽³⁾ | 35.0 | 78.0 | | | | | 52.3 |
| 77 | ICA L-124 | 698.1 | 29.0 | 86.0 | | | | | 38.8 |
| 2 | UFV-1 | 683.5 ⁽²⁾ | 30.0 | 88.0 | | | | | 33.3 |
| 39 | IGH 23 | 675.1 ⁽²⁾ | 37.5 | 97.0 | | | | | 52.3 |
| 45 | ICA L-109 | 664.7 | 37.5 | 90.0 | | | | | 42.8 |
| 43 | Alamo | 625.1 | 35.0 | 90.0 | | | | | 32.8 |
| 46 | Ecuador 2 | 493.9 | 32.0 | 87.0 | | | | | 35.3 |
| | Grand mean | 739.0 | 34.7 | 91.7 | | | | | 46.1 |
| | Standard error of cultivar mean | 277.9 | 0.4 | 0.0 | | | | | 4.2 |
| | Coefficient of variation (%) | 37.6 | 2.3 | 0.0 | | | | | 18.2 |
| 5% LSD Cultivar means (****=ns) | | ***** | 1.1 | 0.0 | | | | | 12.1 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|---------------------------------|---------|------------|------------------|------------|--------------|---------------------|--------------------|---------------------|
| 76 | SIATSA 194 | 1.0 | 3.3 | 204.5 | 14.5 | 20.0 | 13.0 ⁽¹⁾ | 2.0 | |
| 79 | 71-38 | 1.0 | 3.3 | 202.3 | 14.8 | 10.0 | 9.0 ⁽¹⁾ | 3.0 ⁽¹⁾ | 35.0 ⁽¹⁾ |
| 40 | IGH 24 | 1.0 | 1.0 | 244.8 | 15.8 | 18.3 | 11.3 | 2.5 | |
| 9 | Jupiter | 1.3 | 1.5 | 171.3 | 16.8 | 18.8 | 14.0 | 3.0 | |
| 78 | ISRA/IRAT 44A/73 | 1.3 | 3.5 | 224.8 | 16.8 | 12.8 | 13.0 ⁽¹⁾ | 2.0 ⁽¹⁾ | 35.0 ⁽¹⁾ |
| 64 | ICA L-125 | 1.0 | 1.0 | 212.8 | 13.0 | 24.0 | 14.0 | 2.3 | |
| 10 | Improved Pelican | 1.0 | 2.0 | 200.3 | 18.8 | 14.3 | 13.3 ⁽³⁾ | 5.0 ⁽³⁾ | 5.0 ⁽¹⁾ |
| 77 | ICA L-124 | 1.0 | 2.0 | 193.5 | 13.8 | 11.8 | 16.8 | 4.8 | |
| 2 | UFV-1 | 1.0 | 2.0 | 238.8 | 12.0 | 12.3 | 16.0 ⁽²⁾ | 4.0 ⁽²⁾ | 15.0 ⁽¹⁾ |
| 39 | IGH 23 | 1.5 | 2.0 | 193.0 | 16.5 | 23.8 | 14.5 ⁽²⁾ | 3.0 ⁽²⁾ | 15.0 ⁽¹⁾ |
| 45 | ICA L-109 | 1.0 | 1.3 | 202.5 | 20.8 | 12.5 | 10.3 | 3.3 | |
| 43 | Alamo | 1.8 | 1.3 | 174.8 | 16.3 | 9.8 | 12.5 | 2.3 | |
| 46 | Ecuador 2 | 1.0 | 1.5 | 190.0 | 12.8 | 12.8 | 15.3 | 4.5 | |
| | Grand mean | 1.1 | 2.0 | 204.1 | 15.6 | 15.4 | 13.5 | 3.3 | 21.0 |
| | Standard error of cultivar mean | 0.2 | 0.4 | 18.2 | 1.9 | 1.0 | 2.8 | 1.1 | 13.4 |
| | Coefficient of variation (%) | 25.6 | 44.8 | 17.8 | 24.8 | 12.7 | 20.9 | 33.7 | 63.9 |
| 5% LSD Cultivar means (****=ns) | | 0.4 | 1.3 | ***** | ***** | 2.8 | ***** | ***** | ***** |

Table 26. Trial 510, 1982

Country: GHANA Latitude: 7°N Zone: 1 Group: C
Region: AFRICA Longitude: 2°W Elevation (m): 250
Site: MIM BRONG, AHAFO
Cooperator(s): ELMO SCHMIDT
Date planted: May 15, 1982 Date harvested: August 24, 1982
Soil type: loam 10%, silt 60%, clay 30%
Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
Total moisture (mm): 432

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------------|---------------------|----------------|
| 19 | Davis | 2,108.8 | 23.0 | 99.5 | 3.8 | 4.5 | 76.3 | 82.5 | 78.5 |
| 2 | UFV-1 | 1,892.0 | 28.0 | 108.5 | 1.8 | 2.5 | 86.3 | 91.3 | 51.0 |
| 89 | Williams 82 | 1,842.0 | 24.0 | 97.8 | 4.0 | 4.8 | 67.5 | 77.5 | 82.3 |
| 10 | Improved Pelican | 1,679.5 | 28.0 | 100.0 | 3.0 | 3.8 | 83.8 | 83.8 | 78.5 |
| 77 | ICA L-124 | 1,646.2 | 24.0 | 112.8 | 3.5 | 4.0 | 82.5 | 90.0 | 47.5 |
| 44 | Foster | 1,537.8 | 22.0 | 99.5 | 3.3 | 4.0 | 70.0 | 80.0 | 76.0 |
| 46 | Ecuador 2 | 1,525.3 | 30.0 | 103.8 | 4.5 | 5.0 | 60.0 ⁽²⁾ | 60.0 ⁽²⁾ | 80.8 |
| 9 | Jupiter | 1,387.8 | 38.0 | 102.0 | 4.0 | 4.5 | 72.5 | 77.5 | 72.3 |
| 39 | IGH 23 | 1,312.8 | 40.0 | 108.5 | 4.0 | 5.5 | 70.0 | 73.8 | 57.3 |
| 43 | Alamo | 1,308.6 | 33.3 | 99.8 | 4.0 | 4.0 | 63.8 | 67.5 | 78.5 |
| 78 | ISRA/IRAT 44A/73 | 1,287.8 | 33.0 | 100.0 | 3.0 | 3.8 | 82.5 | 88.8 | 73.8 |
| 76 | SIATSA 194 | 1,283.6 | 28.0 | 121.5 | 2.3 | 3.0 | 75.0 | 82.5 | 106.8 |
| 79 | 71-38 | 1,096.0 | 30.8 | 104.5 | 4.0 | 4.5 | 55.0 | 63.8 | 58.0 |
| 45 | ICA L-109 | 958.5 | 39.0 | 115.0 | 4.0 | 4.8 | 58.8 | 71.3 | 75.3 |
| 40 | IGH 24 | 700.1 | 42.0 | 115.0 | 3.5 | 5.0 | 77.5 | 78.8 | 60.5 |
| 64 | ICA L-125 | 198.8 | 33.0 | 119.5 | 4.0 | 4.3 | 76.3 | 75.0 | 106.0 |
| Grand mean | | 1,360.4 | 31.0 | 106.7 | 3.5 | 4.2 | 72.7 | 78.3 | 73.9 |
| Standard error of cultivar mean | | 218.4 | 0.5 | 6.4 | 0.3 | 0.3 | 13.8 | 13.2 | 7.3 |
| Coefficient of variation (%) | | 32.1 | 3.4 | 12.0 | 15.5 | 14.7 | 19.0 | 16.9 | 19.7 |
| 5% LSD Cultivar means (****=ns) | | 622.2 | 1.5 | **** | 0.8 | 0.9 | **** | **** | 20.8 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|------------------|---------|------------|----------------------|---------------------|--------------|------------------|--------------------|---------------------|
| 19 | Davis | 2.0 | 2.5 | 106.5 | 40.8 | 9.0 | 18.8 | 2.5 | 40.0 ⁽¹⁾ |
| 2 | UFV-1 | 1.8 | 3.0 | 112.3 | 36.3 | 8.3 | 19.0 | 2.0 | 30.0 ⁽¹⁾ |
| 89 | Williams 82 | 2.0 | 1.8 | 114.5 | 36.3 | 11.0 | 18.0 | 2.8 | 2.0 ⁽¹⁾ |
| 10 | Improved Pelican | 1.8 | 2.3 | 108.5 | 67.8 | 10.0 | 18.5 | 3.3 | 30.0 ⁽¹⁾ |
| 77 | ICA L-124 | 2.0 | 2.0 | 113.8 | 39.5 | 8.5 | 23.5 | 2.5 | 52.0 ⁽¹⁾ |
| 44 | Foster | 1.8 | 2.0 | 121.5 | 35.8 | 7.8 | 20.8 | 3.0 | 6.0 ⁽¹⁾ |
| 46 | Ecuador 2 | 2.5 | 2.5 | 161.0 | 33.0 | 7.5 | 17.8 | 3.5 | 2.0 ⁽¹⁾ |
| 9 | Jupiter | 2.0 | 2.0 | 104.0 | 48.5 | 12.0 | 18.5 | 3.3 | 67.0 ⁽¹⁾ |
| 39 | IGH 23 | 1.5 | 2.0 | 116.0 | 50.5 | 7.5 | 20.0 | 3.5 | 36.0 ⁽¹⁾ |
| 43 | Alamo | 2.0 | 3.0 | 114.0 | 46.8 | 7.8 | 15.6 | 3.3 | 22.0 ⁽¹⁾ |
| 78 | ISRA/IRAT 44A/73 | 2.3 | 2.5 | 102.0 ⁽³⁾ | 57.0 ⁽³⁾ | 8.5 | 17.0 | 3.0 ⁽³⁾ | 61.0 ⁽¹⁾ |
| 76 | SIATSA 194 | 2.5 | 2.3 | 125.3 | 51.8 | 8.3 | 21.0 | 3.0 | 18.0 ⁽¹⁾ |
| 79 | 71-38 | 1.8 | 2.0 | 105.5 | 51.3 | 7.0 | 13.5 | 3.3 | 9.0 ⁽¹⁾ |
| 45 | ICA L-109 | 2.3 | 1.8 | 111.3 | 51.0 | 6.8 | 14.3 | 2.8 | 15.0 ⁽¹⁾ |
| 40 | IGH 24 | 2.3 | 2.8 | 124.3 | 53.8 | 7.8 | 19.3 | 3.0 | 32.0 ⁽¹⁾ |
| 64 | ICA L-125 | 1.8 | 2.3 | 80.8 | 63.0 | 11.3 | 19.5 | 5.0 ⁽³⁾ | 5.0 ⁽¹⁾ |
| Grand mean | | 2.0 | 2.3 | 114.0 | 47.5 | 8.7 | 18.4 | 3.1 | 26.7 |
| Standard error of cultivar mean | | 0.3 | 0.4 | 24.4 | 14.6 | 0.7 | 1.8 | 0.9 | 20.7 |
| Coefficient of variation (%) | | 29.6 | 34.2 | 21.4 | 30.8 | 16.2 | 19.6 | 29.5 | 77.5 |
| 5% LSD Cultivar means (****=ns) | | **** | **** | **** | **** | 2.0 | 5.2 | **** | **** |

Table 27. Trial 514, 1982

| Country: GHANA | | | Latitude: 5°06'N | | | Zone: 1 | | | Group: A | |
|---|------------------|---------------|------------------|------------------|---------------------------------|------------------|------------------|-----------------|----------------|--|
| Region: AFRICA | | | Longitude: 0°W | | | Elevation (m): 6 | | | | |
| Site: CAPE COAST | | | | | | | | | | |
| Cooperator(s): GEORGE ACQUAAH | | | | | | | | | | |
| Date planted: May 29, 1982 | | | | | Date harvested: August 10, 1982 | | | | | |
| Soil type: loamy clay loam, pH 5.8 | | | | | | | | | | |
| Fertilizer used (kg/ha): N 15.0, P 15.0, K 15.0 | | | | | | | | | | |
| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) | |
| 77 | ICA L-124 | 879.1 | 35.5 | 98.8 | | 1.8 | | 98.8 | 98.8 | |
| 76 | SIATSA 194 | 879.1 | 40.3 | 99.0 | | 1.0 | | 97.5 | 99.5 | |
| 43 | Alamo | 843.3 | 41.3 | 100.5 | | 1.5 | | 92.5 | 100.5 | |
| 10 | Improved Pelican | 817.5 | 37.8 | 98.8 | | 1.3 | | 98.8 | 97.8 | |
| 13 | Bossier | 799.7 | 30.0 | 93.0 | | 2.3 | | 95.0 | 93.0 | |
| 39 | IGH 23 | 762.2 | 44.8 | 103.5 | | 1.8 | | 100.0 | 103.5 | |
| 19 | Davis | 761.8 | 34.0 | 93.8 | | 1.8 | | 100.0 | 93.8 | |
| 46 | Ecuador 2 | 755.2 | 40.3 | 105.0 | | 2.0 | | 97.5 | 105.0 | |
| 9 | Jupiter | 749.7 | 45.0 | 104.8 | | 1.0 | | 96.3 | 104.8 | |
| 40 | IGH 24 | 727.0 | 45.3 | 109.3 | | 1.8 | | 96.3 | 109.3 | |
| 79 | 71-38 | 722.2 | 40.0 | 103.0 | | 2.3 | | 92.5 | 103.0 | |
| 78 | ISRA/IRAT 44A/73 | 697.6 | 42.3 | 100.3 | | 1.3 | | 98.8 | 100.3 | |
| 45 | ICA L-109 | 655.8 | 43.8 | 103.3 | | 1.8 | | 93.8 | 103.3 | |
| 89 | Williams 82 | 629.7 | 29.5 | 90.8 | | 1.0 | | 96.3 | 91.8 | |
| 2 | UFV-1 | 627.6 | 37.8 | 98.8 | | 1.8 | | 97.5 | 100.0 | |
| 64 | ICA L-125 | 528.4 | 46.8 | 118.0 | | 1.3 | | 93.8 | 118.0 | |
| Grand mean | | 739.8 | 39.6 | 101.3 | | 1.6 | | 96.6 | 101.4 | |
| Standard error of cultivar mean | | 43.3 | 0.5 | 0.9 | | 0.4 | | 2.7 | 0.9 | |
| Coefficient of variation (%) | | 11.7 | 2.7 | 1.7 | | 46.0 | | 5.6 | 1.8 | |
| 5% LSD Cultivar means (*****=ns) | | 123.3 | 1.5 | 2.5 | | ***** | | ***** | 2.6 | |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. | |
| 77 | ICA L-124 | 1.3 | 1.0 | 192.5 | 47.9 | 9.8 | 23.2 | 1.3 | 88.8 | |
| 76 | SIATSA 194 | 2.3 | 1.0 | 191.8 | 58.3 | 15.4 | 22.4 | 1.3 | 96.0 | |
| 43 | Alamo | 1.3 | 1.0 | 187.5 | 54.7 | 8.6 | 17.5 | 1.3 | 99.3 | |
| 10 | Improved Pelican | 1.5 | 1.0 | 193.0 | 76.2 | 9.0 | 17.2 | 1.8 | 94.3 | |
| 13 | Bossier | 1.0 | 1.0 | 191.5 | 30.2 | 6.3 | 18.5 | 1.8 | 93.8 | |
| 39 | IGH 23 | 1.3 | 1.0 | 192.8 | 61.9 | 13.3 | 20.5 | 1.8 | 96.0 | |
| 19 | Davis | 1.0 | 1.0 | 194.8 | 41.5 | 5.7 | 22.3 | 2.0 | 87.8 | |
| 46 | Ecuador 2 | 1.0 | 1.0 | 197.3 | 63.4 | 7.6 | 20.4 | 1.3 | 78.3 | |
| 9 | Jupiter | 1.3 | 1.0 | 195.5 | 54.4 | 9.5 | 21.5 | 1.8 | 94.3 | |
| 40 | IGH 24 | 1.0 | 1.0 | 195.0 | 83.7 | 14.0 | 17.9 | 1.8 | 89.3 | |
| 79 | 71-38 | 1.3 | 1.0 | 193.8 | 96.3 | 7.0 | 12.1 | 2.3 | 96.5 | |
| 78 | ISRA/IRAT 44A/73 | 1.5 | 1.0 | 196.5 | 79.8 | 11.0 | 17.4 | 2.8 | 88.5 | |
| 45 | ICA L-109 | 1.0 | 1.0 | 195.5 | 77.9 | 7.8 | 14.8 | 1.5 | 82.8 | |
| 89 | Williams 82 | 1.0 | 1.0 | 195.0 | 27.1 | 6.9 | 21.9 | 3.0 | 92.0 | |
| 2 | UFV-1 | 1.0 | 1.0 | 197.0 | 35.7 | 5.9 | 18.5 | 2.3 | 96.0 | |
| 64 | ICA L-125 | 2.5 | 1.0 | 194.0 | 75.8 | 16.2 | 14.1 | 2.3 | 89.3 | |
| Grand mean | | 1.3 | 1.0 | 194.0 | 60.3 | 9.6 | 18.8 | 1.9 | 91.4 | |
| Standard error of cultivar mean | | 0.2 | 0.0 | 1.9 | 4.4 | 0.8 | 0.9 | 0.2 | 1.1 | |
| Coefficient of variation (%) | | 25.7 | 0.0 | 2.0 | 14.5 | 16.7 | 9.3 | 26.1 | 2.4 | |
| 5% LSD Cultivar means (*****=ns) | | 0.5 | ***** | ***** | 12.4 | 2.3 | 2.5 | 0.7 | 3.1 | |

Table 28. Trial 557, 1982

Country: GUATEMALA
Region: MESO AMERICA

Latitude: 14°23'N
Longitude: 91°35'W

Zone: 4 Group: A
Elevation (m): 100

Site: LA MAQUINA, CUYOTENANGO, SUCHITEPEQUEZ
Cooperator(s): M. SOLARES, DANILO GONZALEZ ARAUZ

Date planted: July 15, 1982

Date harvested: October 15, 1982

Soil type: loam 40%, silt 24%, clay 35%, pH 6.8

Fertilizer used (kg/ha): N 25.0, P 25.0, K 30.0

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|--------------------|-----------------|---------------------|---------------|----------------|
| 46 | Ecuador 2 | 4,438.4 | 33.8 | 108.0 | 3.3 ⁽³⁾ | 3.8 | | 71.3 | 65.0 |
| 43 | Alamo | 4,084.1 | 37.0 | 100.5 | 3.0 ⁽³⁾ | 4.5 | 25.0 ⁽²⁾ | 43.8 | 60.0 |
| 78 | ISRA/IRAT 44A/73 | 3,969.5 | 34.5 | 103.5 | 3.3 ⁽³⁾ | 3.8 | | 57.5 | 77.5 |
| 40 | IGH 24 | 3,927.9 | 37.3 | 105.0 | 4.3 ⁽³⁾ | 4.3 | 30.0 ⁽²⁾ | 38.8 | 83.8 |
| 2 | UFV-1 | 3,896.6 | 31.5 | 105.8 | 3.0 ⁽³⁾ | 4.3 | 20.0 ⁽²⁾ | 37.5 | 48.8 |
| 9 | Jupiter | 3,886.2 | 36.5 | 101.3 | 3.0 ⁽³⁾ | 3.8 | 37.5 ⁽²⁾ | 57.5 | 73.8 |
| 76 | SIATSA 194 | 3,813.3 | 34.0 | 100.5 | 2.7 ⁽³⁾ | 2.3 | 50.0 ⁽²⁾ | 68.8 | 100.0 |
| 39 | IGH 23 | 3,750.8 | 36.5 | 99.8 | 5.0 ⁽³⁾ | 4.5 | | 22.5 | 78.8 |
| 77 | ICA L-124 | 3,459.0 | 28.3 | 104.8 | 3.0 ⁽³⁾ | 5.0 | 17.5 ⁽²⁾ | 0.0 | 58.8 |
| 13 | Bossier | 3,396.5 | 20.0 | 113.0 | 2.3 ⁽³⁾ | 5.0 | 57.5 ⁽²⁾ | 0.0 | 41.3 |
| 45 | ICA L-109 | 3,313.2 | 36.3 | 119.0 | 4.7 ⁽³⁾ | 4.5 | 10.0 ⁽²⁾ | 40.0 | 80.0 |
| 19 | Davis | 3,250.7 | 25.3 | 111.0 | 2.3 ⁽³⁾ | 5.0 | 27.5 ⁽²⁾ | 12.5 | 45.0 |
| 89 | Williams 82 | 3,063.1 | 20.0 | 85.0 | 2.7 ⁽³⁾ | 3.8 | 67.5 ⁽²⁾ | 0.0 | 53.8 |
| 10 | Improved Pelican | 3,021.4 | 32.0 | 97.5 | 3.3 ⁽³⁾ | 4.8 | | 10.0 | 98.8 |
| 64 | ICA L-125 | 2,938.1 | 34.5 | 115.0 | 2.7 ⁽³⁾ | 3.5 | 32.5 ⁽²⁾ | 96.3 | 118.8 |
| 79 | 71-38 | 2,917.3 | 34.0 | 104.3 | 3.0 ⁽³⁾ | 4.3 | 25.0 ⁽²⁾ | 41.3 | 53.8 |
| Grand mean | | 3,570.4 | 32.0 | 104.6 | 3.2 | 4.2 | 33.3 | 37.3 | 71.1 |
| Standard error of cultivar mean | | 202.1 | 0.7 | 2.2 | 0.7 | 0.5 | 20.6 | 14.0 | 3.7 |
| Coefficient of variation (%) | | 11.3 | 4.3 | 4.2 | 38.6 | 22.7 | 87.4 | 75.2 | 10.3 |
| 5% LSD Cultivar means (*****=ns) | | 575.8 | 2.0 | 6.3 | ***** | 1.4 | ***** | 40.0 | 10.4 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------------|
| 46 | Ecuador 2 | 1.0 | 1.0 | 202.8 | 40.8 | 20.0 | 18.3 | 1.8 | 50.0 ⁽¹⁾ |
| 43 | Alamo | 1.3 | 1.0 | 242.5 | 37.5 | 16.5 | 16.3 | 2.0 | 88.0 ⁽¹⁾ |
| 78 | ISRA/IRAT 44A/73 | 2.8 | 1.0 | 249.0 | 35.3 | 17.5 | 14.8 | 2.3 | 60.0 ⁽¹⁾ |
| 40 | IGH 24 | 1.5 | 1.0 | 202.5 | 36.8 | 22.5 | 17.8 | 2.0 | 60.0 ⁽¹⁾ |
| 2 | UFV-1 | 1.0 | 1.0 | 239.8 | 30.8 | 11.3 | 15.8 | 2.0 | 85.0 ⁽¹⁾ |
| 9 | Jupiter | 2.0 | 1.0 | 209.0 | 42.3 | 22.5 | 19.0 | 2.0 | 15.0 ⁽¹⁾ |
| 76 | SIATSA 194 | 1.3 | 1.0 | 241.0 | 32.0 | 27.8 | 23.0 | 2.0 | 50.0 ⁽¹⁾ |
| 39 | IGH 23 | 2.5 | 1.0 | 254.5 | 36.8 | 27.5 | 17.8 | 2.0 | 90.0 ⁽¹⁾ |
| 77 | ICA L-124 | 2.5 | 1.0 | 255.3 | 31.5 | 16.3 | 18.8 | 2.8 | 80.0 ⁽¹⁾ |
| 13 | Bossier | 1.0 | 1.0 | 212.8 | 38.8 | 6.3 | 16.8 | 3.0 | 55.0 ⁽¹⁾ |
| 45 | ICA L-109 | 2.3 | 1.0 | 236.8 | 61.8 | 15.0 | 11.0 | 2.5 | 60.0 ⁽¹⁾ |
| 19 | Davis | 1.3 | 1.0 | 240.8 | 25.0 | 7.5 | 18.5 | 3.0 | 60.0 ⁽¹⁾ |
| 89 | Williams 82 | 1.0 | 1.0 | 253.3 | 32.5 | 10.0 | 17.0 | 2.5 | 60.0 ⁽¹⁾ |
| 10 | Improved Pelican | 2.0 | 1.0 | 242.3 | 35.8 | 18.8 | 12.3 | 1.8 | 70.0 ⁽¹⁾ |
| 64 | ICA L-125 | 3.8 | 1.0 | 207.0 | 60.8 | 18.8 | 12.3 | 2.0 | 55.0 ⁽¹⁾ |
| 79 | 71-38 | 1.5 | 1.0 | 228.0 | 38.5 | 15.0 | 11.8 | 2.3 | 60.0 ⁽¹⁾ |
| Grand mean | | 1.8 | 1.0 | 232.3 | 38.5 | 17.1 | 16.3 | 2.2 | 62.4 |
| Standard error of cultivar mean | | 0.3 | 0.0 | 19.1 | 4.5 | 1.9 | 0.6 | 0.2 | 18.3 |
| Coefficient of variation (%) | | 30.4 | 0.0 | 16.5 | 23.6 | 22.4 | 7.5 | 15.8 | 29.3 |
| 5% LSD Cultivar means (*****=ns) | | 0.8 | ***** | ***** | 12.9 | 5.5 | 1.8 | 0.5 | ***** |

Table 29. Trial 558, 1982

Country: GUATEMALA Latitude: 14°17'N Zone: 4 Group: A
Region: MESO AMERICA Longitude: 90°50'W Elevation (m): 48
Site: CUYUTA, ESCUINTLA
Cooperator(s): DANILO GONZALEZ ARAUZ
Date planted: July 8, 1982 Date harvested: October 15, 1982
Soil type: loam 27%, silt 53%, clay 18%, pH 7.5
Fertilizer used (kg/ha): N 25.0, P 30.0, K 30.0
Total moisture (mm): 852

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------------|---------------|----------------|
| 89 | Williams 82 | 2,979.8 | 22.5 | 93.5 | 4.0 | 3.5 | 87.5 | 93.8 | 85.0 |
| 40 | IGH 24 | 2,792.2 | 39.0 | 112.5 | 4.8 | 3.5 | 17.5 | 97.5 | 91.3 |
| 2 | UFV-1 | 2,771.4 | 30.5 | 113.3 | 3.5 | 3.5 | 92.5 | 100.0 | 61.3 |
| 19 | Davis | 2,688.0 | 22.3 | 95.5 | 4.0 | 4.0 | 90.0 ⁽³⁾ | 100.0 | 41.3 |
| 46 | Ecuador 2 | 2,438.0 | 30.0 | 107.0 | 4.0 | 4.0 | 67.5 | 98.8 | 66.3 |
| 39 | IGH 23 | 2,396.3 | 38.8 | 111.8 | 4.0 | 3.8 | 97.5 | 98.8 | 97.5 |
| 77 | ICA L-124 | 2,313.0 | 27.0 | 99.0 | 3.8 | 4.0 | 85.0 | 96.3 | 81.3 |
| 64 | ICA L-125 | 2,208.8 | 37.5 | 130.0 | 3.5 | 3.3 | 97.5 | 96.3 | 140.0 |
| 9 | Jupiter | 2,146.3 | 38.5 | 111.0 | 4.0 | 3.5 | 65.0 | 100.0 | 86.3 |
| 43 | Alamo | 2,146.3 | 38.3 | 111.0 | 4.3 | 3.8 | 72.5 | 100.0 | 72.5 |
| 13 | Bossier | 1,687.8 | 22.0 | 111.8 | 4.0 | 3.8 | 65.0 | 95.0 | 33.8 |
| 76 | SIATSA 194 | 1,667.0 | 33.8 | 109.0 | 3.5 | 3.5 | 90.0 | 97.5 | 138.8 |
| 79 | 71-38 | 1,646.2 | 32.8 | 111.0 | 4.0 | 4.0 | 92.5 | 97.5 | 61.3 |
| 10 | Improved Pelican | 1,500.3 | 28.8 | 96.3 | 4.5 | 4.0 | 45.0 | 96.3 | 117.5 |
| 45 | ICA L-109 | 1,375.3 | 38.8 | 130.0 | 4.5 | 3.5 | 45.0 | 100.0 | 105.0 |
| 78 | ISRA/IRAT 44A/73 | 937.7 | 36.3 | 109.0 | 3.8 | 4.5 | 72.5 | 48.8 | 45.0 |
| Grand mean | | 2,105.9 | 32.3 | 109.5 | 4.0 | 3.8 | 73.7 | 94.8 | 82.7 |
| Standard error of cultivar mean | | 183.9 | 0.0 | 0.0 | 0.3 | 0.2 | 37.0 | 6.4 | 5.1 |
| Coefficient of variation (%) | | 17.5 | 0.0 | 0.0 | 13.9 | 11.3 | 50.3 | 13.4 | 12.2 |
| 5% LSD Cultivar means (****=ns) | | 523.7 | 0.0 | 0.0 | **** | 0.6 | **** | 18.1 | 14.4 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 89 | Williams 82 | 2.3 | 1.0 | 236.3 | 33.0 | 6.3 | 19.8 | 5.0 | 61.3 |
| 40 | IGH 24 | 1.8 | 1.0 | 156.3 | 60.3 | 15.0 | 17.0 | 1.8 | 81.0 |
| 2 | UFV-1 | 1.5 | 1.0 | 185.3 | 43.5 | 6.3 | 17.5 | 3.0 | 62.3 |
| 19 | Davis | 1.0 | 1.3 | 210.3 | 36.8 | 5.0 | 20.0 | 4.3 | 35.3 |
| 46 | Ecuador 2 | 1.3 | 1.0 | 119.8 | 53.3 | 8.8 | 19.9 | 3.0 | 47.3 |
| 39 | IGH 23 | 2.5 | 1.5 | 153.5 | 60.0 | 16.3 | 18.1 | 2.5 | 64.5 |
| 77 | ICA L-124 | 2.3 | 1.3 | 214.0 | 40.8 | 10.0 | 19.7 | 4.3 | 62.5 |
| 64 | ICA L-125 | 2.0 | 1.8 | 170.0 | 56.8 | 11.3 | 15.3 | 3.0 | 80.5 |
| 9 | Jupiter | 2.0 | 1.0 | 138.8 | 52.0 | 16.3 | 21.4 | 3.8 | 59.5 |
| 43 | Alamo | 2.0 | 1.0 | 170.5 | 51.3 | 17.5 | 16.9 | 4.0 | 40.0 |
| 13 | Bossier | 1.0 | 1.0 | 161.8 | 36.0 | 6.5 | 17.2 | 4.8 | 15.3 |
| 76 | SIATSA 194 | 3.5 | 2.3 | 171.5 | 44.3 | 13.8 | 21.0 | 3.8 | 71.8 |
| 79 | 71-38 | 1.8 | 1.0 | 162.8 | 51.8 | 11.3 | 12.0 | 3.8 | 35.0 |
| 10 | Improved Pelican | 2.0 | 1.0 | 168.5 | 50.0 | 17.5 | 11.3 | 3.0 | 70.5 |
| 45 | ICA L-109 | 3.0 | 1.0 | 178.8 | 54.8 | 12.5 | 12.2 | 4.0 | 28.0 |
| 78 | ISRA/IRAT 44A/73 | 1.3 | 1.3 | 50.5 | 131.3 | 5.0 | 17.9 | 3.8 | 71.0 |
| Grand mean | | 1.9 | 1.2 | 165.5 | 53.5 | 11.2 | 17.3 | 3.6 | 55.3 |
| Standard error of cultivar mean | | 0.3 | 0.2 | 13.9 | 4.2 | 2.0 | 0.4 | 0.3 | 7.5 |
| Coefficient of variation (%) | | 25.5 | 25.8 | 16.8 | 15.6 | 35.2 | 4.2 | 15.5 | 26.9 |
| 5% LSD Cultivar means (****=ns) | | 0.7 | 0.4 | 39.6 | 11.9 | 5.6 | 1.0 | 0.8 | 21.2 |

Table 30. Trial 579, 1982

Country: GUATEMALA Latitude: 14°17'N Zone: 4 Group: A
 Region: MESO AMERICA Longitude: 90°50'W Elevation (m): 48
 Site: CUYUTA, ESCUINTLA
 Cooperator(s): DANILO GONZALEZ A.
 Date planted: December 1982 Date harvested: May 1983

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 64 | ICA L-125 | 3,854.9 | 46.0 | 118.0 | | 3.5 | | 187.5 | 73.8 |
| 2 | UFV-1 | 3,584.0 | 45.3 | 114.0 | | 3.5 | | 95.0 | 35.0 |
| 43 | Alamo | 3,396.5 | 56.0 | 116.0 | | 3.3 | | 98.8 | 51.3 |
| 76 | SIATSA 194 | 3,342.8 | 52.0 | 112.0 | | 2.3 | | 97.5 | 71.3 |
| 39 | IGH 23 | 3,292.3 | 53.8 | 118.0 | | 3.8 | | 100.0 | 77.5 |
| 9 | Jupiter | 3,237.3 | 53.8 | 116.0 | | 3.5 | | 98.8 | 68.8 |
| 45 | ICA L-109 | 3,234.8 | 57.0 | 114.0 | | 3.3 | | 100.0 | 60.0 |
| 40 | IGH 24 | 3,201.9 | 57.0 | 114.0 | | 3.5 | | 98.8 | 82.5 |
| 77 | ICA L-124 | 3,101.9 | 45.3 | 114.0 | | 4.0 | | 97.5 | 50.8 |
| 78 | ISRA/IRAT 44A/73 | 3,003.9 | 53.0 | 110.0 | | 2.5 | | 92.5 | 58.8 |
| 46 | Ecuador 2 | 2,988.9 | 45.3 | 110.0 | | 3.5 | | 98.8 | 46.3 |
| 79 | 71-38 | 2,924.3 | 45.3 | 112.0 | | 3.5 | | 95.0 | 32.5 |
| 10 | Improved Pelican | 2,780.1 | 45.8 | 118.0 | | 3.5 | | 83.8 | 66.3 |
| 19 | Davis | 2,668.5 | 45.3 | 110.0 | | 4.0 | | 96.3 | 31.3 |
| 89 | Williams 82 | 2,087.9 | 41.5 | 99.0 | | 3.5 | | 87.5 | 37.0 |
| 13 | Bossier | 1,708.7 | 44.5 | 118.0 | | 3.5 | | 93.8 | 31.3 |
| Grand mean | | 3,025.5 | 49.2 | 113.3 | | 3.4 | | 101.3 | 54.6 |
| Standard error of cultivar mean | | 285.5 | 1.0 | 1.5 | | 0.4 | | 22.5 | 2.9 |
| Coefficient of variation (%) | | 18.9 | 4.2 | 2.6 | | 25.7 | | 44.5 | 10.6 |
| 5% LSD Cultivar means (*****=ns) | | 813.3 | 2.9 | 4.2 | | ***** | | ***** | 8.3 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 64 | ICA L-125 | 2.5 | 1.0 | 184.3 | 57.0 | 10.5 | 16.5 | 2.3 | 66.5 |
| 2 | UFV-1 | 1.0 | 1.0 | 227.8 | 24.5 | 7.5 | 19.0 | 2.0 | 80.3 |
| 43 | Alamo | 2.5 | 1.0 | 194.3 | 36.8 | 9.8 | 18.3 | 2.3 | 77.8 |
| 76 | SIATSA 194 | 2.8 | 1.0 | 193.8 | 46.5 | 12.3 | 21.3 | 2.0 | 67.5 |
| 39 | IGH 23 | 4.3 | 1.0 | 204.3 | 41.8 | 11.8 | 19.3 | 2.0 | 79.5 |
| 9 | Jupiter | 2.8 | 1.0 | 170.3 | 40.8 | 12.3 | 20.7 | 2.8 | 70.3 |
| 45 | ICA L-109 | 2.5 | 1.0 | 219.5 | 58.8 | 11.8 | 12.7 | 2.0 | 76.0 |
| 40 | IGH 24 | 2.5 | 1.0 | 202.3 | 51.0 | 14.5 | 15.3 | 2.0 | 78.5 |
| 77 | ICA L-124 | 2.5 | 1.0 | 197.8 | 36.3 | 10.0 | 20.0 | 2.0 | 87.0 |
| 78 | ISRA/IRAT 44A/73 | 3.0 | 1.0 | 205.3 | 47.5 | 10.5 | 15.5 | 2.0 | 82.8 |
| 46 | Ecuador 2 | 1.3 | 1.0 | 208.3 | 29.5 | 8.5 | 17.8 | 2.3 | 65.3 |
| 79 | 71-38 | 1.0 | 1.0 | 202.0 | 32.3 | 4.5 | 13.4 | 2.5 | 71.3 |
| 10 | Improved Pelican | 1.3 | 1.0 | 194.5 | 40.5 | 8.3 | 16.0 | 2.0 | 80.3 |
| 19 | Davis | 1.0 | 1.0 | 191.3 | 21.3 | 6.5 | 18.1 | 2.3 | 79.3 |
| 89 | Williams 82 | 1.0 | 1.0 | 265.3 | 17.8 | 4.0 | 18.9 | 3.0 | 83.3 |
| 13 | Bossier | 1.0 | 1.0 | 188.3 | 22.8 | 5.5 | 18.1 | 2.5 | 46.5 |
| Grand mean | | 2.1 | 1.0 | 203.1 | 37.8 | 9.3 | 17.6 | 2.2 | 74.5 |
| Standard error of cultivar mean | | 0.3 | 0.0 | 10.9 | 4.0 | 1.3 | 1.1 | 0.2 | 7.4 |
| Coefficient of variation (%) | | 29.4 | 0.0 | 10.8 | 21.1 | 28.2 | 12.1 | 15.2 | 19.8 |
| 5% LSD Cultivar means (*****=ns) | | 0.9 | ***** | 31.1 | 11.4 | 3.7 | 3.0 | 0.5 | 21.0 |

Table 31. Trial 517, 1982

Country: INDONESIA
Region: ASIA

Latitude: 6°S
Longitude: 112°E

Zone: 2 Group: A
Elevation (m): 545

Site: KUNINGAN EXP. FARM, WEST JAVA

Cooperator(s): OMAR O. HIDAYAT, Y.R. HIDAYAT, B. H. SIWI

Date planted: June 8, 1982

Date harvested: August 28, 1982

Fertilizer used (kg/ha): N 45.0, P 21.1, K 39.8

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 76 | SIATSA 194 | 1,530.3 | 34.5 | 90.0 | 2.0 | 2.0 | 85.3 | 85.0 | 69.6 |
| 10 | Improved Pelican | 1,394.5 | 29.0 | 85.0 | 2.0 | 2.0 | 84.3 | 71.3 | 60.9 |
| 19 | Davis | 1,300.7 | 27.8 | 85.0 | 2.0 | 2.0 | 93.8 | 92.5 | 23.9 |
| 89 | Williams 82 | 1,227.8 | 24.3 | 74.0 | 2.0 | 2.3 | 94.0 | 92.5 | 34.5 |
| 2 | UFV-1 | 1,154.8 | 29.0 | 88.0 | 2.0 | 2.0 | 84.3 | 80.0 | 27.6 |
| 64 | ICA L-125 | 1,102.7 | 30.5 | 90.0 | 2.0 | 2.3 | 86.3 | 71.3 | 68.3 |
| 78 | ISRA/IRAT 44A/73 | 1,102.7 | 36.0 | 88.0 | 2.1 | 2.0 | 85.0 | 71.3 | 51.7 |
| 13 | Bossier | 1,071.5 | 24.0 | 74.0 | 2.0 | 2.5 | 89.8 | 88.8 | 23.8 |
| 5 | Orba | 1,071.5 | 28.8 | 85.0 | 2.0 | 2.3 | 73.0 | 100.0 | 39.3 |
| 46 | Ecuador 2 | 1,019.4 | 34.3 | 86.0 | 2.0 | 2.5 | 87.5 | 81.3 | 47.3 |
| 45 | ICA L-109 | 926.9 | 35.3 | 94.0 | 2.0 | 2.0 | 83.3 | 78.8 | 58.4 |
| 40 | IGH 24 | 916.8 | 41.0 | 103.0 | 2.0 | 2.5 | 91.0 | 87.5 | 63.1 |
| 39 | IGH 23 | 833.5 | 36.8 | 99.0 | 2.0 | 2.5 | 81.5 | 80.0 | 74.8 |
| 9 | Jupiter | 832.7 | 42.5 | 95.0 | 2.0 | 2.3 | 88.0 | 78.5 | 64.6 |
| 43 | Alamo | 811.0 | 33.3 | 93.8 | 2.0 | 2.3 | 87.5 | 85.0 | 44.6 |
| 79 | 71-38 | 748.5 | 28.0 | 86.0 | 2.0 | 2.8 | 85.0 | 80.0 | 22.9 |
| 77 | ICA L-124 | 706.0 | 29.3 | 87.0 | 2.0 | 2.0 | 87.5 | 88.8 | 42.7 |
| Grand mean | | 1,044.2 | 32.0 | 88.4 | 2.0 | 2.2 | 86.3 | 83.1 | 48.1 |
| Standard error of cultivar mean | | 102.1 | 0.4 | 0.5 | 0.0 | 0.2 | 4.1 | 5.5 | 2.4 |
| Coefficient of variation (%) | | 19.6 | 2.5 | 1.1 | 2.4 | 20.3 | 9.4 | 13.3 | 9.9 |
| 5% LSD Cultivar means (****=ns) | | 290.4 | 1.1 | 1.4 | ***** | ***** | ***** | 15.7 | 6.7 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 76 | SIATSA 194 | 1.0 | 1.0 | 157.5 | 36.4 | 4.7 | 19.8 | 3.5 | 88.5 |
| 10 | Improved Pelican | 1.0 | 1.0 | 169.0 | 42.9 | 4.3 | 14.3 | 3.8 | 86.8 |
| 19 | Davis | 1.0 | 1.0 | 166.3 | 26.8 | 2.2 | 16.3 | 3.3 | 59.5 |
| 89 | Williams 82 | 1.0 | 1.0 | 151.8 | 23.9 | 2.8 | 18.3 | 3.8 | 85.0 |
| 2 | UFV-1 | 1.0 | 1.0 | 158.0 | 28.7 | 2.5 | 15.6 | 3.5 | 88.3 |
| 64 | ICA L-125 | 1.0 | 1.0 | 165.0 | 43.3 | 3.9 | 12.4 | 3.8 | 90.8 |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 1.0 | 151.3 | 49.4 | 3.7 | 11.9 | 3.8 | 91.5 |
| 13 | Bossier | 1.0 | 1.0 | 164.0 | 20.5 | 2.4 | 16.8 | 3.0 | 89.5 |
| 5 | Orba | 1.0 | 1.0 | 149.0 | 34.1 | 2.9 | 14.0 | 3.0 | 89.8 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 150.0 | 30.6 | 3.1 | 15.8 | 3.3 | 76.5 |
| 45 | ICA L-109 | 1.0 | 1.0 | 162.5 | 43.5 | 3.5 | 10.8 | 3.0 | 91.8 |
| 40 | IGH 24 | 1.0 | 1.0 | 170.0 | 43.5 | 4.0 | 12.5 | 2.5 | 93.8 |
| 39 | IGH 23 | 1.0 | 1.0 | 166.3 | 25.2 | 4.6 | 15.6 | 4.0 | 91.3 |
| 9 | Jupiter | 1.0 | 1.0 | 165.3 | 31.2 | 4.3 | 16.0 | 3.8 | 88.0 |
| 43 | Alamo | 1.0 | 1.0 | 161.3 | 25.6 | 3.4 | 14.6 | 3.5 | 88.3 |
| 79 | 71-38 | 1.0 | 1.0 | 126.3 | 32.0 | 2.2 | 11.3 | 4.0 | 61.8 |
| 77 | ICA L-124 | 1.0 | 1.0 | 151.8 | 32.0 | 3.3 | 14.5 | 4.5 | 83.0 |
| Grand mean | | 1.0 | 1.0 | 157.9 | 33.5 | 3.4 | 14.7 | 3.5 | 84.9 |
| Standard error of cultivar mean | | 0.0 | 0.0 | 7.7 | 3.2 | 0.3 | 0.7 | 0.4 | 4.3 |
| Coefficient of variation (%) | | 0.0 | 0.0 | 9.7 | 19.1 | 19.3 | 8.8 | 22.1 | 10.1 |
| 5% LSD Cultivar means (****=ns) | | ***** | ***** | 21.8 | 9.1 | 0.9 | 1.9 | ***** | 12.2 |

Table 32. Trial 521, 1982

Country: INDONESIA Latitude: 3°09'N Zone: 3 Group: A
Region: ASIA Longitude: 98°35'E Elevation (m): 1,400
Site: BRASTAGI, NORTH SUMATRA
Cooperator(s): BIBIT BARU P.T.
Date planted: June 9, 1982 Date harvested: September 20, 1982
Soil type: andosol
Fertilizer used (kg/ha): N 9.7, P 24.6, K 27.8
Total moisture (mm): 610
Number of irrigations: 12 (36 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 9 | Jupiter | | 82.0 | | 2.8 | 1.8 | 38.8 | 52.5 | |
| 39 | IGH 23 | | 84.5 | | 2.5 | 2.0 | 40.0 | 48.8 | |
| 45 | ICA L-109 | | 94.3 | | 2.3 | 1.0 | 50.0 | 53.8 | |
| 40 | IGH 24 | | 88.0 | | 2.0 | 2.5 | 46.3 | 22.5 | |
| 79 | 71-38 | | 67.3 | | 2.5 | 1.0 | 47.5 | 98.8 | |
| 44 | Foster | 958.5 | 45.0 | 103.0 | 1.0 | 1.0 | 63.8 | 91.3 | 25.5 |
| 13 | Bossier | 866.8 | 45.0 | 101.3 | 2.0 | 2.0 | 70.0 | 90.0 | 23.5 |
| 10 | Improved Pelican | 748.1 | 63.5 | 122.0 | 2.3 | 1.5 | 35.0 | 92.5 | 62.3 |
| 19 | Davis | 727.2 | 58.3 | 113.0 | 2.3 | 1.5 | 51.3 | 98.8 | 18.5 |
| 89 | Williams 82 | 643.9 | 43.0 | 102.0 | 1.3 | 1.5 | 53.8 | 96.3 | 15.8 |
| 2 | UFV-1 | 410.5 | 61.8 | 119.3 | 2.5 | 1.0 | 46.3 | 92.5 | 35.5 |
| 64 | ICA L-125 | 372.2 | 61.8 | 127.8 | 1.8 | 1.0 | 50.0 | 91.3 | 61.3 |
| 43 | Alamo | 215.9 | 69.3 | 127.3 | 2.3 | 1.5 | 40.0 | 97.5 | 51.3 |
| 46 | Ecuador 2 | 207.5 | 63.8 | 119.3 | 3.0 | 1.5 | 37.5 | 97.5 | 41.8 |
| 76 | SIATSA 194 | 189.6 | 73.3 | 134.8 | 1.8 | 1.0 | 62.5 | 95.0 | 86.8 |
| 78 | ISRA/IRAT 44A/73 | 185.5 | 71.8 | 124.5 | 2.0 | 1.0 | 42.5 | 87.5 | 60.0 |
| Grand mean | | 502.3 | 67.0 | 117.6 | 2.1 | 1.4 | 48.4 | 81.6 | 43.8 |
| Standard error of cultivar mean | | 63.1 | 1.6 | 1.4 | 0.5 | 0.5 | 10.6 | 9.0 | 1.8 |
| Coefficient of variation (%) | | 25.1 | 4.8 | 2.4 | 43.0 | 66.2 | 43.8 | 22.0 | 8.3 |
| 5% LSD Cultivar means (****=ns) | | 182.2 | 4.5 | 4.0 | ***** | ***** | ***** | 25.6 | 5.2 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 9 | Jupiter | | | | | | | | |
| 39 | IGH 23 | | | | | | | | |
| 45 | ICA L-109 | | | | | | | | |
| 40 | IGH 24 | | | | | | | | |
| 79 | 71-38 | | | | | | | | |
| 44 | Foster | 1.0 | 1.0 | 168.5 | 22.5 | 2.5 | 14.1 | 2.5 | 94.0 |
| 13 | Bossier | 1.0 | 1.0 | 148.8 | 19.5 | 1.3 | 14.9 | 3.5 | 94.8 |
| 10 | Improved Pelican | 1.0 | 1.0 | 166.0 | 26.3 | 8.3 | 11.6 | 3.3 | 97.8 |
| 19 | Davis | 1.0 | 1.0 | 162.8 | 21.3 | 5.0 | 13.5 | 4.0 | 91.5 |
| 89 | Williams 82 | 1.0 | 1.0 | 160.5 | 11.5 | | 19.1 | 3.5 | 98.3 |
| 2 | UFV-1 | 1.0 | 1.0 | 161.0 | 18.5 | 5.0 | 10.0 | 4.8 | 96.0 |
| 64 | ICA L-125 | 1.5 | 1.0 | 155.3 | 15.8 | 8.0 | 10.6 | 4.0 | 89.3 |
| 43 | Alamo | 2.5 | 1.0 | 145.5 | 17.8 | 7.5 | 8.9 | 4.5 | 83.0 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 160.0 | 20.8 | 6.5 | 10.8 | 5.0 | 91.3 |
| 76 | SIATSA 194 | 5.0 | 1.0 | 114.3 | 10.0 | 12.9 | 13.1 | 4.5 | 90.0 |
| 78 | ISRA/IRAT 44A/73 | 3.5 | 1.0 | 145.3 | 21.0 | 9.5 | 8.6 | 4.8 | 96.8 |
| Grand mean | | 1.8 | 1.0 | 153.4 | 18.6 | 6.6 | 12.3 | 4.0 | 93.0 |
| Standard error of cultivar mean | | 0.4 | 0.0 | 7.4 | 1.6 | 0.8 | 0.5 | 0.3 | 3.3 |
| Coefficient of variation (%) | | 39.3 | 0.0 | 9.7 | 17.2 | 22.8 | 8.9 | 13.2 | 7.2 |
| 5% LSD Cultivar means (****=ns) | | 1.0 | ***** | 21.5 | 4.6 | 2.2 | 1.6 | 0.8 | ***** |

Table 33. Trial 561, 1982

| | | | | | | | | | |
|---|------------------|---------------|----------------------------------|------------------|-----------------|---------------------|------------------|-----------------|----------------|
| Country: IVORY COAST | | | Latitude: 8°05'N | | | Zone: 1 Group: A | | | |
| Region: AFRICA | | | Longitude: 5°09'W | | | Elevation (m): 400 | | | |
| Site: DIKODOUGOU | | | | | | | | | |
| Cooperator(s): DIALLO ROGER | | | | | | | | | |
| Date planted: August 3, 1982 | | | Date harvested: November 5, 1982 | | | | | | |
| Soil type: silt 20.2%, clay 32%, pH 6.2 | | | | | | | | | |
| Fertilizer used (kg/ha): N 40.0, P 31.7, K 59.8 | | | | | | | | | |
| Total moisture (mm): 320 | | | | | | | | | |
| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
| 76 | SIATSA 194 | 2,711.0 | 38.0 | 102.0 | | | | | 73.8 |
| 46 | Ecuador 2 | 2,552.6 | 34.0 | 98.0 | | | | | 57.9 |
| 77 | ICA L-124 | 2,531.8 | 33.0 | 102.0 | | | | | 59.5 |
| 39 | IGH 23 | 2,331.7 | 40.0 | 104.0 | | | | | 73.8 |
| 40 | IGH 24 | 2,288.0 | 42.0 | 101.0 | | | | | 65.9 |
| 78 | ISRA/IRAT 44A/73 | 2,279.6 | 38.0 | 104.0 | | | | | 52.2 |
| 9 | Jupiter | 2,267.1 | 41.0 | 104.0 | | | | | 67.1 |
| 2 | UFV-1 | 2,263.0 | 34.0 | 98.0 | | | | | 37.8 |
| 10 | Improved Pelican | 2,243.0 | 35.0 | 98.0 | | | | | 68.2 |
| 43 | Alamo | 2,238.0 | 40.0 | 94.0 | | | | | 47.3 |
| 89 | Williams 82 | 2,227.5 | 28.0 | 94.0 | | | | | 44.5 |
| 13 | Bossier | 2,150.4 | 28.0 | 96.0 | | | | | 41.1 |
| 45 | ICA L-109 | 2,065.0 | 42.0 | 108.0 | | | | | 70.0 |
| 64 | ICA L-125 | 1,917.0 | 37.0 | 108.0 | | | | | 70.0 |
| 19 | Davis | 1,642.0 | 31.0 | 101.0 | | | | | 32.2 |
| 79 | 71-38 | 1,600.3 | 34.0 | 105.0 | | | | | 42.3 |
| Grand mean | | 2,206.7 | 35.9 | 101.1 | | | | | 56.5 |
| Standard error of cultivar mean | | 147.6 | 0.0 | 0.0 | | | | | 2.2 |
| Coefficient of variation (%) | | 13.4 | 0.0 | 0.0 | | | | | 7.8 |
| 5% LSD Cultivar means (*****=ns) | | 420.5 | 0.0 | 0.0 | | | | | 6.3 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 76 | SIATSA 194 | 1.5 | 2.0 | 192.3 | 42.9 | 11.1 | 21.3 | 1.0 | 85.0 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 196.5 | 35.1 | 8.1 | 17.2 | 1.0 | 85.0 |
| 77 | ICA L-124 | 1.0 | 1.0 | 188.5 | 41.3 | 9.4 | 21.6 | 1.0 | 87.0 |
| 39 | IGH 23 | 1.3 | 2.0 | 192.3 | 33.3 | 11.3 | 18.1 | 1.0 | 77.0 |
| 40 | IGH 24 | 1.0 | 1.0 | 196.3 | 38.8 | 10.0 | 14.1 | 1.0 | 95.0 |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 2.0 | 193.3 | 44.1 | 8.4 | 15.3 | 1.0 | 91.0 |
| 9 | Jupiter | 1.0 | 1.0 | 191.0 | 29.5 | 11.5 | 19.3 | 1.0 | 82.0 |
| 2 | UFV-1 | 1.0 | 1.0 | 197.3 | 30.9 | 7.7 | 16.9 | 1.0 | 84.0 |
| 10 | Improved Pelican | 1.3 | 1.0 | 194.3 | 42.7 | 9.1 | 15.5 | 1.0 | 75.0 |
| 43 | Alamo | 1.0 | 2.0 | 186.3 | 32.2 | 7.7 | 17.5 | 1.0 | 95.0 |
| 89 | Williams 82 | 1.0 | 2.0 | 186.0 | 27.4 | 6.2 | 21.7 | 2.0 | 60.0 |
| 13 | Bossier | 1.0 | 1.0 | 193.8 | 33.7 | 7.6 | 19.8 | 2.0 | 77.0 |
| 45 | ICA L-109 | 1.0 | 1.0 | 194.5 | 46.4 | 11.7 | 10.9 | 1.0 | 79.0 |
| 64 | ICA L-125 | 1.3 | 2.0 | 190.3 | 42.1 | 9.2 | 14.6 | 2.0 | 74.0 |
| 19 | Davis | 1.0 | 1.0 | 196.0 | 19.8 | 5.6 | 20.2 | 1.0 | 90.0 |
| 79 | 71-38 | 1.0 | 2.0 | 193.3 | 32.8 | 6.4 | 11.7 | 1.0 | 94.0 |
| Grand mean | | 1.1 | 1.4 | 192.6 | 35.8 | 8.8 | 17.2 | 1.2 | 83.1 |
| Standard error of cultivar mean | | 0.1 | 0.0 | 2.6 | 2.4 | 0.5 | 0.0 | 0.0 | 0.0 |
| Coefficient of variation (%) | | 21.9 | 0.0 | 2.7 | 13.1 | 11.2 | 0.2 | 0.0 | 0.0 |
| 5% LSD Cultivar means (*****=ns) | | ***** | 0.0 | ***** | 6.7 | 1.4 | 0.0 | 0.0 | 0.0 |

Table 34. Trial 562, 1982

Country: IVORY COAST

Latitude: 8°02'N

Zone: 1 Group: A

Region: AFRICA

Longitude: 7°09'W

Elevation (m): 400

Site: TOUBA

Cooperator(s): DIALLO ROGER

Date planted: July 27, 1982

Date harvested: October 25, 1982

Soil type: loam 44.2%, silt 21.4%, clay 34.2%, pH 5.2

Fertilizer used (kg/ha): N 40.0, P 31.7, K 59.8

Total moisture (mm): 723

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 76 | SIATSA 194 | 1,898.3 | 43.0 | 104.0 | 2.3 | 1.0 | | 66.3 | 37.7 |
| 77 | ICA L-124 | 1,650.3 | 35.0 | 101.0 | 1.5 | 1.0 | | 73.8 | 32.5 |
| 40 | IGH 24 | 1,592.0 | 46.0 | 110.0 | 3.3 | 1.0 | | 52.5 | 34.7 |
| 45 | ICA L-109 | 1,583.7 | 45.0 | 107.0 | 1.8 | 1.0 | | 65.0 | 39.4 |
| 46 | Ecuador 2 | 1,398.2 | 39.0 | 102.0 | 3.3 | 1.0 | | 81.3 | 30.9 |
| 9 | Jupiter | 1,377.4 | 43.0 | 107.0 | 3.5 | 1.0 | | 77.5 | 36.2 |
| 64 | ICA L-125 | 1,373.2 | 35.0 | 103.0 | 2.5 | 1.0 | | 85.0 | 35.8 |
| 43 | Alamo | 1,289.8 | 42.0 | 107.0 | 2.8 | 1.0 | | 86.3 | 24.9 |
| 2 | UFV-1 | 1,262.8 | 37.0 | 101.0 | 2.8 | 1.0 | | 71.3 | 21.2 |
| 39 | IGH 23 | 1,241.9 | 43.0 | 107.0 | 2.8 | 1.0 | | 67.5 | 35.2 |
| 79 | 71-38 | 1,121.1 | 39.0 | 104.0 | 2.5 | 1.0 | | 80.0 | 22.2 |
| 19 | Davis | 1,067.7 | 36.0 | 101.0 | 2.0 | 1.0 | | 76.3 | 20.2 |
| 78 | ISRA/IRAT 44A/73 | 908.5 | 43.0 | 101.0 | 3.0 | 1.0 | | 83.8 | 25.5 |
| 10 | Improved Pelican | 902.3 | 36.0 | 90.0 | 2.8 | 1.0 | | 85.0 | 28.2 |
| 89 | Williams 82 | 777.2 | 29.0 | 90.0 | 1.5 | 1.0 | | 46.3 | 18.6 |
| 13 | Bossier | 775.2 | 28.0 | 90.0 | 1.8 | 1.0 | | 67.5 | 18.0 |
| Grand mean | | 1,263.7 | 38.7 | 101.6 | 2.5 | 1.0 | | 72.8 | 28.8 |
| Standard error of cultivar mean | | 133.2 | 0.0 | 0.0 | 0.5 | 0.0 | | 7.7 | 1.4 |
| Coefficient of variation (%) | | 21.1 | 0.0 | 0.0 | 43.0 | 0.0 | | 21.1 | 10.0 |
| 5% LSD Cultivar means (****=ns) | | 379.5 | 0.0 | 0.0 | **** | **** | | 21.9 | 4.1 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 76 | SIATSA 194 | 1.0 | 1.8 | 198.8 | 17.3 | 11.0 | 20.8 | 1.0 | 97.5 |
| 77 | ICA L-124 | 1.0 | 1.0 | 192.3 | 14.5 | 11.1 | 21.7 | 1.0 | 99.3 |
| 40 | IGH 24 | 1.0 | 1.0 | 201.5 | 20.8 | 10.2 | 17.0 | 1.0 | 97.5 |
| 45 | ICA L-109 | 1.0 | 1.0 | 193.0 | 28.5 | 9.5 | 11.1 | 1.0 | 98.8 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 199.5 | 15.5 | 10.7 | 16.7 | 2.0 | 97.8 |
| 9 | Jupiter | 1.0 | 1.0 | 201.8 | 17.3 | 9.7 | 17.2 | 1.0 | 97.5 |
| 64 | ICA L-125 | 1.0 | 1.5 | 196.0 | 19.3 | 10.6 | 13.9 | 2.0 | 99.8 |
| 43 | Alamo | 1.0 | 1.8 | 199.8 | 16.0 | 6.6 | 15.7 | 1.0 | 98.0 |
| 2 | UFV-1 | 1.0 | 1.0 | 190.3 | 13.5 | 6.9 | 17.4 | 1.0 | 97.3 |
| 39 | IGH 23 | 1.0 | 1.8 | 196.3 | 17.3 | 11.5 | 17.5 | 1.0 | 96.8 |
| 79 | 71-38 | 1.0 | 1.8 | 204.0 | 15.3 | 7.6 | 11.7 | 2.0 | 65.3 |
| 19 | Davis | 1.0 | 1.0 | 198.8 | 11.3 | 8.4 | 18.6 | 1.0 | 92.3 |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 1.0 | 198.0 | 12.5 | 8.6 | 13.7 | 1.0 | 97.0 |
| 10 | Improved Pelican | 1.0 | 1.0 | 194.8 | 15.8 | 9.5 | 12.0 | 1.0 | 98.3 |
| 89 | Williams 82 | 1.0 | 2.3 | 197.0 | 7.5 | 8.3 | 20.7 | 2.0 | 98.0 |
| 13 | Bossier | 1.0 | 1.0 | 194.0 | 11.0 | 7.0 | 17.1 | 2.0 | 98.0 |
| Grand mean | | 1.0 | 1.3 | 197.2 | 15.8 | 9.2 | 16.4 | 1.3 | 95.6 |
| Standard error of cultivar mean | | 0.0 | 0.2 | 4.1 | 1.6 | 0.4 | 0.4 | 0.0 | 0.5 |
| Coefficient of variation (%) | | 0.0 | 27.2 | 4.1 | 20.0 | 8.2 | 4.5 | 0.0 | 1.1 |
| 5% LSD Cultivar means (****=ns) | | **** | 0.5 | **** | 4.5 | 1.1 | 1.1 | 0.0 | 1.5 |

Table 35. Trial 831, 1982

| Country: KOREA | | Latitude: 37°16'N | | Zone: 10 | | Group: C | | | |
|---|-------------|---------------------|-----------------------------------|-------------------|-----------------|-----------------|------------------|-----------------|----------------|
| Region: ASIA | | Longitude: 126°59'E | | Elevation (m): 37 | | | | | |
| Site: SUWEON | | | | | | | | | |
| Cooperator(s): EUN-HI HONG | | | | | | | | | |
| Date planted: June 11, 1982 | | | Date harvested: September 5, 1982 | | | | | | |
| Soil type: pH 6.91 | | | | | | | | | |
| Fertilizer used (kg/ha): N 40.0, P 30.8, K 49.8 | | | | | | | | | |
| Total moisture (mm): 620 | | | | | | | | | |
| | | | | | | | | | |
| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
| 69 | Essex | 3,628.3 | 57.5 | 131.8 | | | | | 89.3 |
| 84 | Sparks | 3,522.5 | 35.5 | 122.0 | | | | | 103.3 |
| 89 | Williams 82 | 3,462.5 | 37.8 | 119.5 | | | | | 101.8 |
| 86 | Fayette | 3,185.0 | 37.3 | 114.3 | | | | | 92.0 |
| 35 | Crawford | 3,176.5 | 43.8 | 123.5 | | | | | 116.0 |
| 72 | Amcor | 3,063.0 | 33.0 | 118.3 | | | | | 86.3 |
| 85 | Pixie | 3,018.3 | 39.0 | 116.0 | | | | | 52.0 |
| 74 | Pella | 2,897.3 | 35.5 | 110.0 | | | | | 85.5 |
| 60 | Kent | 2,647.0 | 42.5 | 123.8 | | | | | 96.3 |
| 88 | Lakota | 2,610.0 | 34.3 | 97.3 | | | | | 83.0 |
| 73 | Century | 2,454.5 | 34.5 | 108.8 | | | | | 70.5 |
| 70 | Hardin | 2,160.5 | 33.0 | 100.0 | | | | | 70.0 |
| 57 | Corsoy 79 | 2,155.8 | 34.3 | 109.8 | | | | | 72.5 |
| 71 | Hodgson 78 | 1,823.5 | 29.5 | 90.3 | | | | | 52.5 |
| 87 | Clay | 1,647.5 | 32.0 | 85.0 | | | | | 41.8 |
| 36 | Evans | 1,459.8 | 29.0 | 84.3 | | | | | 45.3 |
| Grand mean | | 2,682.0 | 36.8 | 109.6 | | | | | 78.6 |
| Standard error of cultivar mean | | 140.3 | 0.6 | 0.5 | | | | | 3.1 |
| Coefficient of variation (%) | | 10.5 | 3.4 | 0.9 | | | | | 7.8 |
| 5% LSD Cultivar means (*****=ns) | | 399.6 | 1.8 | 1.4 | | | | | 8.7 |
| | | | | | | | | | |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 69 | Essex | 2.0 | 1.0 | 169.3 | 37.3 | 31.7 | 15.5 | 2.0 | 99.5 |
| 84 | Sparks | 3.3 | 1.0 | 154.8 | 21.0 | 25.5 | 22.9 | 4.0 | 93.0 |
| 89 | Williams 82 | 2.3 | 1.0 | 163.0 | 17.5 | 23.9 | 23.4 | 2.3 | 91.3 |
| 86 | Fayette | 2.3 | 1.0 | 153.3 | 22.3 | 22.6 | 19.0 | 3.0 | 80.3 |
| 35 | Crawford | 2.8 | 1.0 | 133.8 | 32.0 | 32.5 | 18.4 | 3.0 | 92.0 |
| 72 | Amcor | 3.0 | 1.0 | 157.0 | 22.0 | 16.9 | 19.0 | 3.0 | 86.8 |
| 85 | Pixie | 1.0 | 1.0 | 154.0 | 19.5 | 12.2 | 22.3 | 2.0 | 91.8 |
| 74 | Pella | 1.8 | 1.0 | 160.8 | 16.5 | 20.8 | 22.7 | 3.0 | 82.8 |
| 60 | Kent | 2.3 | 1.0 | 147.8 | 18.8 | 33.4 | 19.4 | 3.0 | 97.0 |
| 88 | Lakota | 2.8 | 1.0 | 171.0 | 21.5 | 16.7 | 16.8 | 3.0 | 98.0 |
| 73 | Century | 1.0 | 2.0 | 167.3 | 16.3 | 20.7 | 19.7 | 3.3 | 91.3 |
| 70 | Hardin | 1.8 | 1.0 | 158.8 | 26.5 | 15.7 | 15.6 | 3.0 | 76.8 |
| 57 | Corsoy 79 | 2.3 | 1.0 | 167.3 | 22.5 | 14.9 | 16.3 | 3.0 | 91.5 |
| 71 | Hodgson 78 | 1.0 | 1.0 | 150.0 | 16.8 | 7.1 | 16.3 | 3.8 | 60.3 |
| 87 | Clay | 1.5 | 1.0 | 161.8 | 16.0 | 9.1 | 14.3 | 4.5 | 61.0 |
| 36 | Evans | 1.0 | 1.0 | 152.5 | 16.0 | 11.4 | 12.7 | 4.0 | 60.5 |
| Grand mean | | 2.0 | 1.1 | 157.6 | 21.4 | 19.7 | 18.4 | 3.1 | 84.6 |
| Standard error of cultivar mean | | 0.3 | 0.0 | 6.6 | 1.9 | 1.0 | 0.6 | 0.1 | 3.4 |
| Coefficient of variation (%) | | 30.7 | 0.0 | 8.4 | 17.3 | 9.8 | 6.2 | 8.2 | 8.1 |
| 5% LSD Cultivar means (*****=ns) | | 0.9 | 0.0 | 18.8 | 5.3 | 2.7 | 1.6 | 0.4 | 9.8 |

Table 36. Trial 578, 1982

Country: MADAGASCAR

Latitude: 19°47'S

Zone: 5 Group: A

Region: AFRICA

Longitude: 46°11'E

Elevation (m): 900

Site: MANDOTO, AMPARIHY

Cooperator(s): RICHARD RANDRIAMAHOLY

Date planted: November 30, 1982

Date harvested: March 8, 1983

Soil type: loam 43.2%, silt 13.6%, clay 43.2%

Fertilizer used (kg/ha): N 25.0, P 22.0, K 41.5

Total moisture (mm): 1,118

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 77 | ICA L-124 | 2,715.6 | 45.0 | 122.0 | 1.0 | 1.0 | 96.3 | 95.0 | 69.8 |
| 2 | UFV-1 | 2,419.9 | 63.0 | 131.0 | 1.0 | 1.0 | 90.0 | 92.5 | 80.4 |
| 13 | Bossier | 2,372.0 | 35.0 | 116.0 | 1.0 | 1.8 | 90.0 | 81.3 | 43.1 |
| 19 | Davis | 2,242.9 | 44.0 | 116.0 | 1.0 | 1.0 | 86.3 | 86.3 | 47.0 |
| 43 | Alamo | 1,968.0 | 66.0 | 136.0 | 1.0 | 1.0 | 91.3 | 81.3 | 75.3 |
| 39 | IGH 23 | 1,909.6 | 69.8 | 160.0 | 1.0 | 1.8 | 76.3 | 75.0 | 102.9 |
| 40 | IGH 24 | 1,794.1 | 76.0 | 160.0 | 1.0 | 1.0 | 87.5 | 63.8 | 106.5 |
| 9 | Jupiter | 1,749.3 | 70.5 | 131.0 | 1.0 | 1.0 | 96.3 | 90.0 | 94.4 |
| 78 | ISRA/IRAT 44A/73 | 1,749.3 | 66.0 | 131.0 | 1.0 | 1.3 | 98.8 | 92.5 | 82.9 |
| 45 | ICA L-109 | 1,735.8 | 68.5 | 160.0 | 1.0 | 1.0 | 85.0 | 91.3 | 98.0 |
| 76 | SIATSA 194 | 1,728.5 | 62.0 | 127.0 | 1.0 | 1.0 | 93.8 | 95.0 | 106.6 |
| 10 | Improved Pelican | 1,707.6 | 52.0 | 122.0 | 1.0 | 1.0 | 93.8 | 78.8 | 88.9 |
| 64 | ICA L-125 | 1,704.5 | 69.5 | 160.0 | 1.0 | 1.0 | 91.3 | 88.8 | 110.7 |
| 79 | 71-38 | 1,672.3 | 63.0 | 130.0 | 1.0 | 1.5 | 93.8 | 80.0 | 73.7 |
| 46 | Ecuador 2 | 1,309.9 | 55.0 | 131.0 | 1.0 | 1.8 | 91.3 | 78.8 | 74.6 |
| 89 | Williams 82 | 1,145.2 | 29.0 | 98.0 | 1.0 | 1.5 | 83.8 | 68.8 | 32.6 |
| Grand mean | | 1,870.3 | 58.4 | 133.2 | 1.0 | 1.2 | 90.3 | 83.7 | 80.5 |
| Standard error of cultivar mean | | 248.1 | 1.0 | 1.3 | 0.0 | 0.3 | 3.4 | 7.5 | 4.0 |
| Coefficient of variation (%) | | 26.5 | 3.5 | 1.9 | 0.0 | 55.0 | 7.5 | 17.9 | 9.9 |
| 5% LSD Cultivar means (****=ns) | | 706.7 | 2.9 | 3.6 | **** | **** | 9.6 | **** | 11.4 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 77 | ICA L-124 | 1.0 | 1.3 | 263.5 | 18.8 | 15.1 | 20.0 | 1.8 | 55.3 |
| 2 | UFV-1 | 1.0 | 1.0 | 250.8 | 24.9 | 21.9 | 15.0 | 1.3 | 77.0 |
| 13 | Bossier | 1.0 | 1.0 | 241.0 | 17.6 | 8.6 | 17.8 | 1.0 | 86.5 |
| 19 | Davis | 1.0 | 1.0 | 267.0 | 10.8 | 9.8 | 18.5 | 1.5 | 48.3 |
| 43 | Alamo | 1.5 | 1.0 | 247.3 | 23.5 | 21.3 | 14.0 | 1.0 | 67.8 |
| 39 | IGH 23 | 1.0 | 1.5 | 234.3 | 27.6 | 22.2 | 17.8 | 1.3 | 43.5 |
| 40 | IGH 24 | 1.0 | 1.5 | 209.3 | 31.3 | 25.0 | 16.5 | 1.3 | 66.8 |
| 9 | Jupiter | 1.0 | 1.0 | 132.5 | 36.5 | 22.4 | 15.0 | 1.3 | 62.5 |
| 78 | ISRA/IRAT 44A/73 | 1.3 | 1.3 | 267.0 | 20.1 | 19.4 | 13.0 | 1.8 | 65.3 |
| 45 | ICA L-109 | 1.0 | 1.3 | 259.0 | 25.2 | 19.2 | 11.0 | 1.3 | 35.5 |
| 76 | SIATSA 194 | 1.8 | 1.5 | 232.8 | 17.3 | 22.8 | 20.0 | 1.5 | 50.8 |
| 10 | Improved Pelican | 1.0 | 1.3 | 261.0 | 25.6 | 18.1 | 13.0 | 1.0 | 41.0 |
| 64 | ICA L-125 | 1.0 | 1.3 | 270.5 | 19.5 | 23.3 | 15.0 | 1.3 | 46.3 |
| 79 | 71-38 | 1.3 | 1.3 | 256.3 | 28.3 | 16.3 | 10.0 | 1.0 | 36.0 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 188.3 | 20.3 | 20.2 | 15.0 | 1.0 | 39.3 |
| 89 | Williams 82 | 1.0 | 1.5 | 252.5 | 7.1 | 7.5 | 21.0 | 1.8 | 73.3 |
| Grand mean | | 1.1 | 1.2 | 239.6 | 22.1 | 18.3 | 15.8 | 1.3 | 55.9 |
| Standard error of cultivar mean | | 0.1 | 0.2 | 14.1 | 2.7 | 1.1 | 0.8 | 0.2 | 6.1 |
| Coefficient of variation (%) | | 24.1 | 34.2 | 11.7 | 24.1 | 12.4 | 10.3 | 32.9 | 21.8 |
| 5% LSD Cultivar means (****=ns) | | 0.4 | **** | 40.0 | 7.6 | 3.2 | 2.3 | **** | 17.3 |

Table 37. Trial 727, 1982

Country: MADAGASCAR Latitude: 19°47'S Zone: 5 Group: B
Region: AFRICA Longitude: 46°11'E Elevation (m): 900
Site: MANDOTO, AMPARIHY
Cooperator(s): RICHARD RANDRIAMAHOLY
Date planted: November 30, 1982 Date harvested: March 8, 1983
Soil type: loam 43.2%, silt 13.6%, clay 43.2%
Fertilizer used (kg/ha): N 25.0, P 22.0, K 41.5
Total moisture (mm): 1,118

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 80 | HM-1 | 3,202.9 | 51.8 | 127.0 | 1.0 | 1.0 | 96.3 | 90.0 | 88.0 |
| 81 | Ecuador 1 | 3,065.4 | 57.5 | 131.0 | 1.0 | 1.0 | 97.5 | 95.0 | 103.2 |
| 76 | SIATSA 194 | 3,044.6 | 60.0 | 131.0 | 1.0 | 1.0 | 98.8 | 97.5 | 132.9 |
| 82 | PK-73-86 | 2,919.7 | 48.8 | 128.0 | 1.0 | 1.0 | 95.0 | 95.0 | 79.5 |
| 43 | Alamo | 2,872.8 | 63.8 | 130.0 | 1.0 | 1.0 | 97.5 | 96.3 | 92.5 |
| 47 | PK-73-94 | 2,665.6 | 50.0 | 129.0 | 1.0 | 1.0 | 100.0 | 95.0 | 71.7 |
| 83 | CEP 7717 | 2,528.2 | 50.0 | 116.0 | 1.0 | 1.0 | 97.5 | 96.3 | 58.2 |
| 9 | Jupiter | 2,463.6 | 70.8 | 130.0 | 1.0 | 1.0 | 97.5 | 97.5 | 100.4 |
| 77 | ICA L-124 | 2,349.1 | 43.0 | 127.0 | 1.0 | 1.0 | 93.8 | 92.5 | 86.2 |
| 69 | Essex | 2,250.4 | 35.0 | 116.0 | 1.0 | 1.0 | 93.8 | 92.5 | 38.9 |
| 37 | G 2120 | 2,218.9 | 68.5 | 123.0 | 1.0 | 1.0 | 100.0 | 93.8 | 107.8 |
| 75 | Braxton | 2,082.5 | 37.5 | 127.0 | 1.0 | 1.0 | 95.0 | 98.8 | 51.8 |
| 44 | Foster | 2,011.7 | 36.5 | 129.0 | 1.0 | 1.0 | 97.5 | 91.3 | 49.8 |
| 89 | Williams 82 | 1,835.1 | 29.0 | 98.0 | 1.0 | 1.5 | 80.0 | 91.3 | 46.2 |
| 19 | Davis | 1,668.1 | 45.3 | 127.0 | 1.0 | 1.0 | 96.3 | 95.0 | 51.9 |
| 13 | Bossier | 1,627.9 | 36.5 | 127.0 | 1.0 | 1.0 | 95.0 | 96.3 | 44.2 |
| Grand mean | | 2,425.4 | 49.0 | 124.8 | 1.0 | 1.0 | 95.7 | 94.6 | 75.2 |
| Standard error of cultivar mean | | 262.5 | 1.2 | 0.7 | 0.0 | 0.1 | 2.5 | 2.9 | 4.8 |
| Coefficient of variation (%) | | 21.7 | 4.8 | 1.1 | 0.0 | 24.2 | 5.2 | 6.1 | 12.8 |
| 5% LSD Cultivar means (*****=ns) | | 747.8 | 3.3 | 2.0 | ***** | ***** | 7.1 | ***** | 13.7 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 80 | HM-1 | 1.0 | 1.3 | 254.0 | 21.2 | 20.3 | 21.8 | 1.5 | 59.0 |
| 81 | Ecuador 1 | 1.0 | 1.3 | 250.3 | 28.9 | 22.1 | 20.5 | 1.5 | 75.0 |
| 76 | SIATSA 194 | 2.0 | 1.8 | 258.5 | 22.8 | 22.7 | 22.8 | 1.5 | 50.5 |
| 82 | PK-73-86 | 1.0 | 1.3 | 242.3 | 27.9 | 19.8 | 20.0 | 1.3 | 81.0 |
| 43 | Alamo | 1.5 | 1.5 | 249.8 | 27.7 | 22.6 | 13.3 | 1.3 | 53.8 |
| 47 | PK-73-94 | 1.0 | 1.3 | 244.0 | 22.5 | 15.9 | 19.5 | 1.0 | 32.0 |
| 83 | CEP 7717 | 1.0 | 1.3 | 251.5 | 29.6 | 12.6 | 16.5 | 1.5 | 69.5 |
| 9 | Jupiter | 1.5 | 1.0 | 161.8 | 38.5 | 26.4 | 18.3 | 1.0 | 52.8 |
| 77 | ICA L-124 | 1.0 | 1.3 | 259.8 | 19.8 | 18.2 | 22.8 | 2.0 | 40.5 |
| 69 | Essex | 1.0 | 1.3 | 248.8 | 17.2 | 11.1 | 21.3 | 2.3 | 45.5 |
| 37 | G 2120 | 1.8 | 1.0 | 264.5 | 42.3 | 13.5 | 7.3 | 1.0 | 39.3 |
| 75 | Braxton | 1.0 | 1.3 | 274.3 | 16.8 | 11.7 | 25.0 | 2.5 | 42.5 |
| 44 | Foster | 1.0 | 1.0 | 280.8 | 19.1 | 10.7 | 19.5 | 2.5 | 28.0 |
| 89 | Williams 82 | 1.0 | 2.0 | 248.8 | 10.8 | 6.9 | 20.0 | 1.3 | 46.3 |
| 19 | Davis | 1.0 | 1.3 | 251.3 | 24.3 | 10.6 | 21.3 | 2.3 | 36.3 |
| 13 | Bossier | 1.0 | 1.3 | 229.3 | 19.7 | 8.1 | 21.8 | 3.0 | 54.3 |
| Grand mean | | 1.2 | 1.3 | 248.1 | 24.3 | 15.8 | 19.5 | 1.7 | 50.4 |
| Standard error of cultivar mean | | 0.2 | 0.2 | 13.8 | 3.4 | 1.2 | 0.9 | 0.3 | 10.9 |
| Coefficient of variation (%) | | 35.6 | 34.4 | 11.1 | 28.2 | 14.8 | 9.7 | 34.7 | 43.3 |
| 5% LSD Cultivar means (*****=ns) | | 0.6 | ***** | 39.2 | 9.8 | 3.3 | 2.7 | 0.8 | 31.1 |

Table 38. Trial 565, 1982

Country: MAURITIUS Latitude: 20°S Zone: 4 Group: A
Region: AFRICA Longitude: 57°E Elevation (m): 306
Site: REDUIT
Cooperator(s): A. L. OWADALLY
Date planted: August 13, 1982 Date harvested: January 1983
Soil type: loam 15%, silt 20%, clay 65%, pH 5.4 (low humic latosols)
Fertilizer used (kg/ha): P 26.4, K 24.9
Total moisture (mm): 385
Number of irrigations: 14 (250 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 46 | Ecuador 2 | 3,625.7 | 53.0 | 115.0 | 3.8 | 4.0 | 12.5 | 100.0 | 39.3 |
| 2 | UFV-1 | 3,323.6 | 57.5 | 117.0 | 3.0 | 3.3 | 50.0 | 97.5 | 30.9 |
| 77 | ICA L-124 | 3,250.7 | 53.0 | 117.0 | 2.8 | 2.0 | 43.8 | 100.0 | 43.2 |
| 76 | SIATSA 194 | 3,146.5 | 59.8 | 123.0 | 2.3 | 3.0 | 70.0 | 97.5 | 87.0 |
| 78 | ISRA/IRAT 44A/73 | 3,063.1 | 59.5 | 117.0 | 2.8 | 3.0 | 57.5 | 100.0 | 40.6 |
| 79 | 71-38 | 3,000.6 | 52.8 | 122.0 | 2.8 | 4.0 | 73.8 | 95.0 | 36.0 |
| 10 | Improved Pelican | 2,958.9 | 56.0 | 112.0 | 3.5 | 3.8 | 41.3 | 100.0 | 50.4 |
| 43 | Alamo | 2,667.2 | 61.3 | 119.0 | 3.5 | 2.8 | 18.8 | 97.5 | 54.5 |
| 19 | Davis | 2,563.0 | 49.0 | 110.0 | 2.5 | 2.8 | 76.3 | 100.0 | 30.0 |
| 89 | Williams 82 | 1,875.4 | 46.0 | 101.0 | 2.5 | 2.3 | 41.3 | 100.0 | 26.8 |
| 13 | Bossier | 1,764.5 | 46.0 | 110.0 | 3.0 | 2.0 | 61.3 | 97.5 | 32.2 |
| 64 | ICA L-125 | 1,139.8 | 58.8 | 132.0 | 3.3 | 3.3 | 45.0 | 100.0 | 64.9 |
| 9 | Jupiter | 1,031.5 | 61.0 | 143.0 | 3.8 | 3.8 | 12.5 | 90.0 | 61.9 |
| 45 | ICA L-109 | 854.3 | 62.0 | 143.0 | 2.3 | 4.0 | 75.0 | 93.8 | 72.3 |
| 40 | IGH 24 | 279.2 | 61.0 | 147.0 | 3.8 | 2.8 | 25.0 | 100.0 | 72.2 |
| 39 | IGH 23 | 254.2 | 61.0 | 147.0 | 3.8 | 4.0 | 62.5 | 92.5 | 66.7 |
| Grand mean | | 2,174.9 | 56.1 | 123.4 | 3.1 | 3.2 | 47.9 | 97.6 | 50.5 |
| Standard error of cultivar mean | | 216.4 | 0.6 | 0.9 | 0.4 | 0.4 | 11.4 | 3.0 | 3.4 |
| Coefficient of variation (%) | | 19.9 | 2.3 | 1.4 | 24.0 | 26.2 | 47.7 | 6.2 | 13.3 |
| 5% LSD Cultivar means (*****=ns) | | 616.5 | 1.8 | 2.5 | 1.1 | 1.2 | 32.5 | ***** | 9.6 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 46 | Ecuador 2 | 1.3 | 1.0 | 176.3 | 44.5 | 9.1 | 21.4 | 1.0 | 90.0 |
| 2 | UFV-1 | 1.3 | 1.0 | 191.8 | 35.3 | 7.8 | 20.3 | 1.5 | 91.5 |
| 77 | ICA L-124 | 1.8 | 1.0 | 195.8 | 30.8 | 8.2 | 26.2 | 1.3 | 86.0 |
| 76 | SIATSA 194 | 2.8 | 1.0 | 216.0 | 28.3 | 13.3 | 22.4 | 1.3 | 94.5 |
| 78 | ISRA/IRAT 44A/73 | 1.5 | 1.0 | 199.8 | 50.5 | 8.1 | 17.2 | 2.3 | 96.0 |
| 79 | 71-38 | 1.0 | 1.0 | 204.5 | 34.8 | 7.3 | 14.3 | 1.3 | 92.0 |
| 10 | Improved Pelican | 1.0 | 1.0 | 147.0 | 40.3 | 9.3 | 19.5 | 1.5 | 87.5 |
| 43 | Alamo | 1.8 | 1.0 | 226.8 | 29.5 | 10.0 | 19.6 | 1.5 | 94.0 |
| 19 | Davis | 1.0 | 1.0 | 198.0 | 22.8 | 5.8 | 23.4 | 1.0 | 93.0 |
| 89 | Williams 82 | 2.0 | 1.0 | 214.8 | 17.3 | 4.6 | 23.4 | 1.3 | 91.5 |
| 13 | Bossier | 1.0 | 1.0 | 217.8 | 21.3 | 4.9 | 23.3 | 1.5 | 96.0 |
| 64 | ICA L-125 | 2.0 | 1.0 | 139.0 | 41.8 | 9.4 | 12.4 | 2.8 | 91.0 |
| 9 | Jupiter | 1.5 | 1.0 | 207.8 | 36.0 | 8.3 | 17.5 | 3.3 | 95.5 |
| 45 | ICA L-109 | 1.8 | 1.0 | 202.5 | 55.3 | 7.0 | 14.6 | 3.3 | 90.0 |
| 40 | IGH 24 | 1.0 | 1.0 | 150.0 | 74.8 | 8.2 | 16.7 | 4.0 | 88.0 |
| 39 | IGH 23 | 1.0 | 1.0 | 183.8 | 54.3 | 7.9 | 19.4 | 4.0 | 95.0 |
| Grand mean | | 1.5 | 1.0 | 192.0 | 38.6 | 8.1 | 19.5 | 2.0 | 92.0 |
| Standard error of cultivar mean | | 0.2 | 0.0 | 14.2 | 4.8 | 0.5 | 0.2 | 0.2 | 0.7 |
| Coefficient of variation (%) | | 29.5 | 0.0 | 14.8 | 25.0 | 12.9 | 2.0 | 24.0 | 1.6 |
| 5% LSD Cultivar means (*****=ns) | | 0.6 | ***** | 40.4 | 13.7 | 1.5 | 0.6 | 0.7 | 2.1 |

Table 39. Trial 538, 1982

Country: MEXICO Latitude: 19°45'N Zone: 4 Group: A
 Region: MESO AMERICA Longitude: 90°11'W Elevation (m): 35
 Site: CAYAL CAMPECHE
 Cooperator(s): MARIO RIVERA DE L., JORGE NIETO HATEM
 Date planted: August 25, 1982 Date harvested: December 15, 1982
 Soil type: loam 14%, silt 19%, clay 67%, pH 7.15, loamy clay
 Fertilizer used (kg/ha): N 60.0, P 80.0
 Substituted cultivar(s): Foster

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 43 | Alamo | | | | | | | | |
| 39 | IGH 23 | | | | | | | | |
| 79 | 71-38 | 3,862.8 | 35.0 | | | | | | 49.8 |
| 19 | Davis | 3,215.5 | 51.0 | | | | | | 31.3 |
| 64 | ICA L-125 | 2,885.6 | 38.3 | | | | | | 86.8 |
| 2 | UFV-1 | 2,493.3 | 26.8 | | | | | | 39.8 |
| 40 | IGH 24 | 2,439.4 | 45.0 | | | | | | 72.5 |
| 10 | Improved Pelican | 2,406.4 | 30.3 | | | | | | 74.3 |
| 9 | Jupiter | 2,345.7 | 38.7 | | | | | | 66.3 |
| 46 | Ecuador 2 | 2,090.4 | 38.3 | | | | | | 51.5 |
| 76 | SIATSA 194 | 2,066.1 | 37.8 | | | | | | 79.5 |
| 45 | ICA L-109 | 2,057.5 | 40.3 | | | | | | 64.8 |
| 13 | Bossier | 2,038.4 | 28.3 | | | | | | 32.8 |
| 89 | Williams 82 | 1,981.1 | 27.8 | | | | | | 51.5 |
| 44 | Foster | 1,923.8 | 26.0 | | | | | | 27.8 |
| 78 | ISRA/IRAT 44A/73 | 1,880.4 | 37.5 | | | | | | 60.3 |
| | Grand mean | 2,406.2 | 35.7 | | | | | | 56.3 |
| | Standard error of cultivar mean | 213.2 | 14.9 | | | | | | 1.2 |
| | Coefficient of variation (%) | 17.7 | 41.9 | | | | | | 4.2 |
| 5% LSD Cultivar means (****=ns) | | 609.9 | **** | | | | | | 3.4 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|---------------------------------|---------|------------|------------------|------------|--------------|------------------|--------------------|---------------|
| 43 | Alamo | | | | | | | | |
| 39 | IGH 23 | | | | | | | | |
| 79 | 71-38 | 1.5 | 1.0 | 231.8 | 38.3 | 9.1 | 14.7 | 1.0 ⁽¹⁾ | 31.3 |
| 19 | Davis | 1.0 | 1.0 | 252.5 | 28.3 | 6.1 | 21.0 | 1.0 ⁽¹⁾ | 30.8 |
| 64 | ICA L-125 | 3.0 | 1.0 | 201.8 | 59.8 | 15.2 | 16.3 | 1.0 ⁽¹⁾ | 51.0 |
| 2 | UFV-1 | 1.0 | 1.0 | 206.8 | 22.5 | 10.6 | 16.0 | 1.0 ⁽¹⁾ | 43.3 |
| 40 | IGH 24 | 2.5 | 1.0 | 230.3 | 36.3 | 10.5 | 15.2 | 2.0 ⁽¹⁾ | 46.8 |
| 10 | Improved Pelican | 1.8 | 1.0 | 176.0 | 39.3 | 11.8 | 15.4 | 2.0 ⁽¹⁾ | 34.8 |
| 9 | Jupiter | 2.5 | 1.0 | 175.0 | 39.8 | 11.2 | 19.0 | 1.0 ⁽¹⁾ | 40.5 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 199.0 | 28.5 | 13.3 | 16.6 | 1.0 ⁽¹⁾ | 28.8 |
| 76 | SIATSA 194 | 3.8 | 1.0 | 193.0 | 33.3 | 16.4 | 19.4 | 2.0 ⁽¹⁾ | 32.8 |
| 45 | ICA L-109 | 2.3 | 1.0 | 191.3 | 55.3 | 10.7 | 12.0 | 1.0 ⁽¹⁾ | 40.8 |
| 13 | Bossier | 1.0 | 1.0 | 198.0 | 27.0 | 6.3 | 17.2 | 3.0 ⁽¹⁾ | 15.5 |
| 89 | Williams 82 | 1.0 | 1.0 | 229.5 | 17.3 | 7.7 | 20.1 | 2.0 ⁽¹⁾ | 16.3 |
| 44 | Foster | 1.0 | 1.0 | 198.0 | 22.3 | 6.9 | 16.8 | 2.0 ⁽¹⁾ | 20.5 |
| 78 | ISRA/IRAT 44A/73 | 3.5 | 1.0 | 209.3 | 38.0 | 13.5 | 13.9 | 3.0 ⁽¹⁾ | 29.8 |
| | Grand mean | 1.9 | 1.0 | 206.6 | 34.7 | 10.7 | 16.7 | | 33.0 |
| | Standard error of cultivar mean | 0.4 | 0.0 | 18.9 | 3.2 | 0.9 | 0.0 | | 6.5 |
| | Coefficient of variation (%) | 40.5 | 0.0 | 18.3 | 18.5 | 16.8 | 0.0 | | 39.5 |
| 5% LSD Cultivar means (****=ns) | | 1.1 | **** | **** | 9.2 | 2.6 | 0.0 | | 18.7 |

Table 40. Trial 539, 1982

Country: MEXICO Latitude: 14°30'N Zone: 4 Group: A
Region: MESO AMERICA Longitude: 92°10'W Elevation (m): 9
Site: TAPACHULA, CHIAPAS
Cooperator(s): REZA ALEMAN RAFAEL, JORGE NIETO HATEM, M. C. NICOLAS MALDONADO MORENO
Date planted: July 19, 1982 Date harvested: October 26, 1982
Soil type: loam 34%, silt 26%, clay 40%, pH 6.3
Total moisture (mm): 717

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 45 | ICA L-109 | 2,648.9 | 39.3 | 103.3 | 5.0 | 4.0 | 5.0 | 43.8 | 55.0 |
| 46 | Ecuador 2 | 2,425.5 | 32.0 | 101.3 | 4.8 | 4.3 | 3.8 | 22.5 | 43.5 |
| 76 | SIATSA 194 | 2,387.1 | 35.8 | 95.5 | 4.3 | 4.0 | 6.3 | 40.0 | 57.5 |
| 40 | IGH 24 | 2,264.2 | 39.8 | 102.5 | 5.0 | 3.3 | 0.0 | 70.0 | 55.0 |
| 10 | Improved Pelican | 2,165.4 | 31.0 | 95.0 | 5.0 | 4.8 | 1.3 | 17.5 | 58.0 |
| 9 | Jupiter | 2,111.3 | 38.8 | 102.5 | 5.0 | 4.5 | 0.0 | 18.8 | 47.8 |
| 2 | UFV-1 | 2,049.2 | 31.0 | 103.0 | 5.0 | 4.3 | 1.3 | 20.0 | 30.3 |
| 78 | ISRA/IRAT 44A/73 | 1,979.6 | 36.0 | 99.0 | 4.5 | 4.0 | 3.8 | 12.5 | 41.5 |
| 64 | ICA L-125 | 1,881.6 | 37.0 | 107.0 | 5.0 | 2.5 | 0.0 | 77.5 | 88.8 |
| 39 | IGH 23 | 1,829.1 | 38.3 | 103.0 | 4.8 | 4.8 | 3.8 | 22.5 | 53.0 |
| 79 | 71-38 | 1,791.6 | 35.0 | 103.0 | 5.0 | 4.3 | 2.5 | 10.0 | 30.0 |
| 43 | Alamo | 1,594.1 | 38.3 | 97.5 | 5.0 | 4.8 | 0.0 | 2.5 | 32.5 |
| 19 | Davis | 1,548.2 | 26.0 | 92.0 | 4.5 | 5.0 | 10.0 | 6.3 | 28.8 |
| 13 | Bossier | 1,527.0 | 23.8 | 95.3 | 4.8 | 5.0 | 0.0 | 7.5 | 34.0 |
| 44 | Foster | 1,458.6 | 24.0 | 93.0 | 5.0 | 4.8 | 3.8 | 6.3 | 25.8 |
| 89 | Williams 82 | 1,442.8 | 21.0 | 90.0 | 4.5 | 5.0 | 1.3 | 23.8 | 33.8 |
| Grand mean | | 1,944.0 | 32.9 | 98.9 | 4.8 | 4.3 | 2.7 | 25.1 | 44.7 |
| Standard error of cultivar mean | | 167.4 | 0.3 | 0.5 | 0.2 | 0.2 | 2.9 | 9.9 | 2.4 |
| Coefficient of variation (%) | | 17.2 | 1.6 | 0.9 | 7.5 | 10.5 | 218.2 | 78.6 | 10.8 |
| 5% LSD Cultivar means (****=ns) | | 476.8 | 0.7 | 1.3 | 0.5 | 0.7 | **** | 28.1 | 6.8 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 45 | ICA L-109 | 1.0 | 1.0 | 184.8 | 34.8 | 10.8 | 12.5 | 1.0 | 65.0 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 190.0 | 22.0 | 8.5 | 13.5 | 1.5 | 53.5 |
| 76 | SIATSA 194 | 1.8 | 1.0 | 190.5 | 26.5 | 14.0 | 18.3 | 1.0 | 64.0 |
| 40 | IGH 24 | 1.0 | 1.0 | 181.0 | 29.8 | 14.0 | 13.5 | 2.0 | 47.8 |
| 10 | Improved Pelican | 2.5 | 1.0 | 195.3 | 35.3 | 11.0 | 14.3 | 1.3 | 58.5 |
| 9 | Jupiter | 1.0 | 1.0 | 188.5 | 20.0 | 11.8 | 16.8 | 1.8 | 41.8 |
| 2 | UFV-1 | 1.0 | 1.0 | 201.3 | 19.5 | 8.3 | 15.3 | 1.5 | 58.3 |
| 78 | ISRA/IRAT 44A/73 | 1.3 | 1.0 | 171.8 | 22.5 | 9.8 | 13.5 | 2.5 | 78.5 |
| 64 | ICA L-125 | 1.0 | 1.0 | 183.5 | 41.8 | 12.8 | 7.5 | 3.8 | 53.3 |
| 39 | IGH 23 | 1.0 | 1.0 | 168.8 | 25.8 | 13.8 | 16.3 | 1.5 | 59.8 |
| 79 | 71-38 | 1.0 | 1.0 | 173.5 | 27.8 | 7.5 | 9.8 | 1.8 | 30.8 |
| 43 | Alamo | 1.3 | 1.0 | 202.8 | 16.5 | 9.0 | 14.0 | 2.3 | 43.5 |
| 19 | Davis | 1.0 | 1.0 | 199.3 | 18.5 | 7.0 | 16.3 | 2.0 | 55.0 |
| 13 | Bossier | 1.3 | 1.0 | 182.8 | 20.0 | 5.0 | 16.3 | 3.8 | 41.0 |
| 44 | Foster | 1.3 | 1.0 | 207.0 | 18.8 | 6.3 | 15.0 | 5.0 | 28.0 |
| 89 | Williams 82 | 1.0 | 1.0 | 202.5 | 18.5 | 10.0 | 17.0 | 4.5 | 19.8 |
| Grand mean | | 1.2 | 1.0 | 188.9 | 24.9 | 10.0 | 14.3 | 2.3 | 49.9 |
| Standard error of cultivar mean | | 0.2 | 0.0 | 13.1 | 3.1 | 1.1 | 0.6 | 0.5 | 5.3 |
| Coefficient of variation (%) | | 25.4 | 0.0 | 13.9 | 25.3 | 21.4 | 8.3 | 40.7 | 21.4 |
| 5% LSD Cultivar means (****=ns) | | 0.4 | **** | **** | 8.9 | 3.0 | 1.7 | 1.3 | 15.2 |

Table 41. Trial 715, 1982

Country: MEXICO Latitude: 22°13'N Zone: 7 Group: B
Region: MESO AMERICA Longitude: 98°07'W Elevation (m): 15
Site: CAMPO AGRICOLA AUXILIAR EBANO
Cooperator(s): M. C. NICOLAS MALDONADO MORENO, JORGE NIETO HATEM
Date planted: July 27, 1982 Date harvested: November 9, 1982
Soil type: loam 14.9%, silt 16%, clay 69.1%, pH 7.8, vertisol, serie Margosa
Total moisture (mm): 294
Number of irrigations: 1 (15 mm)
Substituted cultivar(s): Crawford

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 47 | PK-73-94 | 3,224.4 | 34.0 | 98.0 | | | | | 47.8 |
| 19 | Davis | 3,160.9 | 32.0 | 96.0 | | | | | 51.0 |
| 82 | PK-73-86 | 3,157.5 | 34.0 | 96.0 | | | | | 53.3 |
| 44 | Foster | 3,025.3 | 32.0 | 96.0 | | | | | 38.0 |
| 75 | Braxton | 2,980.6 | 32.0 | 96.0 | | | | | 38.0 |
| 80 | HM-1 | 2,906.6 | 35.0 | 96.0 | | | | | 59.8 |
| 76 | SIATSA 194 | 2,864.1 | 42.0 | 86.5 | | | | | 117.8 |
| 69 | Essex | 2,838.1 | 30.0 | 97.0 | | | | | 31.3 |
| 81 | Ecuador 1 | 2,701.3 | 39.0 | 102.0 | | | | | 68.5 |
| 13 | Bossier | 2,700.6 | 32.0 | 97.0 | | | | | 45.0 |
| 43 | Alamo | 2,624.4 | 46.0 | 100.0 | | | | | 68.3 |
| 35 | Crawford | 2,623.8 | 28.0 | 88.0 | | | | | 55.3 |
| 83 | CEP 7717 | 2,607.8 | 41.0 | 96.0 | | | | | 69.3 |
| 89 | Williams 82 | 2,432.2 | 28.0 | 84.0 | | | | | 51.0 |
| 9 | Jupiter | 1,724.4 | 47.0 | 105.0 | | | | | 80.3 |
| 37 | G 2120 | 1,568.1 | 49.3 | 100.5 | | | | | 119.0 |
| Grand mean | | 2,696.3 | 36.3 | 95.9 | | | | | 62.1 |
| Standard error of cultivar mean | | 157.1 | 1.4 | 3.2 | | | | | 2.6 |
| Coefficient of variation (%) | | 11.7 | 7.9 | 6.6 | | | | | 8.5 |
| 5% LSD Cultivar means (****=ns) | | 447.5 | 4.1 | 9.0 | | | | | 7.5 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 47 | PK-73-94 | 1.0 | 1.0 | 320.5 | 35.5 | 7.5 | 15.0 | 3.0 | 67.5 |
| 19 | Davis | 1.0 | 1.0 | 322.8 | 33.3 | 9.3 | 15.8 | 2.0 | 95.3 |
| 82 | PK-73-86 | 1.0 | 1.0 | 324.3 | 38.0 | 10.8 | 15.9 | 2.0 | 72.5 |
| 44 | Foster | 1.0 | 1.0 | 380.8 | 26.3 | 6.5 | 16.0 | 3.0 | 96.3 |
| 75 | Braxton | 1.0 | 1.0 | 322.0 | 24.5 | 5.8 | 19.8 | 2.0 | 92.8 |
| 80 | HM-1 | 1.0 | 1.0 | 326.8 | 34.8 | 6.8 | 18.7 | 2.0 | 70.0 |
| 76 | SIATSA 194 | 1.0 | 1.0 | 300.5 | 42.8 | 23.8 | 17.4 | 2.0 | 81.5 |
| 69 | Essex | 1.0 | 1.0 | 318.3 | 28.0 | 5.5 | 16.5 | 4.0 | 99.8 |
| 81 | Ecuador 1 | 1.0 | 1.0 | 316.0 | 33.8 | 10.3 | 16.2 | 2.0 | 80.8 |
| 13 | Bossier | 1.0 | 1.0 | 316.0 | 28.5 | 8.0 | 15.1 | 3.0 | 98.3 |
| 43 | Alamo | 1.0 | 1.0 | 349.5 | 33.3 | 18.5 | 12.6 | 2.0 | 99.3 |
| 35 | Crawford | 1.0 | 1.0 | 300.8 | 23.0 | 5.5 | 16.8 | 4.0 | 96.0 |
| 83 | CEP 7717 | 1.0 | 1.0 | 327.3 | 38.5 | 15.3 | 12.8 | 2.0 | 92.5 |
| 89 | Williams 82 | 1.0 | 1.0 | 327.5 | 17.8 | 6.3 | 16.3 | 4.0 | 65.8 |
| 9 | Jupiter | 1.0 | 1.0 | 289.0 | 38.8 | 21.3 | 13.8 | 2.0 | 89.5 |
| 37 | G 2120 | 1.0 | 1.0 | 295.5 | 90.8 | 17.8 | 7.2 | 2.0 | 99.8 |
| Grand mean | | 1.0 | 1.0 | 321.1 | 35.5 | 11.2 | 15.4 | 2.6 | 87.3 |
| Standard error of cultivar mean | | 0.0 | 0.0 | 8.2 | 3.2 | 1.9 | 0.5 | 0.0 | 2.8 |
| Coefficient of variation (%) | | 0.0 | 0.0 | 5.1 | 18.1 | 33.7 | 6.2 | 0.0 | 6.5 |
| 5% LSD Cultivar means (****=ns) | | ***** | ***** | 23.3 | 9.1 | 5.4 | 1.4 | 0.0 | 8.0 |

Table 42. Trial 713, 1982

Country: MOROCCO

Latitude: 34°30'N

Zone: 10 Group: B

Region: AFRICA

Longitude: 8°03'W

Elevation (m): 85

Site: SEMVA SIDI SLIMOME GHARB

Cooperator(s): NADAH DRISS

Date planted: May 26, 1982

Date harvested: November 1, 1982

Soil type: loam 17%, silt 55%, clay 22%, pH 8.2

Fertilizer used (kg/ha): N 24.0, P 44.0, K 59.9

Total moisture (mm): 500

Number of irrigations: 7 (500 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------------|-----------------|----------------|
| 69 | Essex | 2,787.3 | 68.5 | 124.3 | 3.8 | 3.3 | 87.5 | 85.0 | 86.3 |
| 83 | CEP 7717 | 2,167.5 | 70.0 | 136.3 | 4.3 | 3.5 | 97.5 ⁽²⁾ | 83.8 | 102.0 |
| 19 | Davis | 2,124.5 | 57.3 | 126.0 | 3.8 | 2.8 | 83.8 | 85.0 | 97.3 |
| 13 | Bossier | 1,866.3 | 58.8 | 133.0 | 5.0 | 4.0 | | 86.3 | 114.3 |
| 77 | ICA L-124 | 1,845.5 | 64.5 | 136.0 | 4.3 | 4.0 | 65.0 ⁽²⁾ | 87.5 | 136.8 |
| 43 | Alamo | 1,720.5 | 66.8 | 163.3 | 3.5 | 3.5 | 86.3 | 82.5 | 123.5 |
| 47 | PK-73-94 | 1,624.5 | 60.5 | 139.3 | 4.0 | 3.8 | 71.7 ⁽³⁾ | 71.3 | 114.3 |
| 89 | Williams 82 | 1,536.3 | 54.0 | 136.3 | 4.5 | 3.8 | 92.5 ⁽²⁾ | 88.8 | 62.5 |
| 75 | Braxton | 1,520.5 | 66.0 | 141.5 | 4.5 | 3.8 | 77.5 ⁽²⁾ | 92.5 | 129.5 |
| 9 | Jupiter | 1,508.0 | 64.5 | 165.0 | 4.5 | 3.5 | 95.0 ⁽²⁾ | 80.0 | 150.3 |
| 82 | PK-73-86 | 1,503.5 | 61.3 | 140.0 | 4.5 | 3.8 | 72.5 ⁽²⁾ | 70.0 | 157.5 |
| 44 | Foster | 1,454.0 | 62.0 | 135.5 | 3.0 | 2.0 | 68.8 | 92.5 | 108.8 |
| 37 | G 2120 | 1,299.8 | 62.0 | 156.3 | 4.0 | 3.0 | 96.3 | 92.5 | 145.5 |
| 76 | SIATSA 194 | 1,237.3 | 65.3 | 163.3 | 4.0 | 3.5 | 98.3 ⁽³⁾ | 65.0 | 145.0 |
| 80 | HM-1 | 1,216.5 | 62.0 | 158.5 | 4.8 | 3.8 | 55.0 ⁽¹⁾ | 88.8 | 138.3 |
| 81 | Ecuador 1 | 1,128.8 | 63.8 | 161.5 | 2.5 | 2.0 | 87.5 | 95.0 | 138.3 |
| Grand mean | | 1,658.8 | 62.9 | 144.7 | 4.1 | 3.4 | 83.8 | 84.1 | 121.9 |
| Standard error of cultivar mean | | 221.5 | 3.8 | 3.0 | 0.4 | 0.4 | 19.3 | 6.0 | 15.5 |
| Coefficient of variation (%) | | 26.7 | 12.0 | 4.1 | 18.6 | 22.6 | 23.1 | 14.2 | 25.4 |
| 5% LSD Cultivar means (****=ns) | | 631.0 | **** | 8.5 | 1.1 | 1.1 | **** | 17.0 | 44.1 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 69 | Essex | 1.0 | 1.0 | 241.3 | 27.0 | 6.9 | 14.0 | | |
| 83 | CEP 7717 | 2.0 | 1.0 | 207.8 | 39.5 | 7.5 | 12.7 | | |
| 19 | Davis | 1.0 | 1.0 | 223.8 | 30.5 | 7.9 | 15.2 | | |
| 13 | Bossier | 1.5 | 1.0 | 157.5 | 33.0 | 9.7 | 15.7 | | |
| 77 | ICA L-124 | 2.0 | 1.0 | 195.8 | 27.0 | 10.7 | 17.6 | | |
| 43 | Alamo | 2.8 | 1.0 | 235.5 | 42.8 | 10.0 | 13.3 | | |
| 47 | PK-73-94 | 2.0 | 1.0 | 204.5 | 24.0 | 9.8 | 13.6 | | |
| 89 | Williams 82 | 1.0 | 1.0 | 220.0 | 18.5 | 5.1 | 19.3 | | |
| 75 | Braxton | 1.5 | 1.0 | 216.0 | 21.0 | 11.1 | 15.2 | | |
| 9 | Jupiter | 3.5 | 1.0 | 214.3 | 14.3 | 12.8 | | | |
| 82 | PK-73-86 | 1.5 | 1.0 | 189.8 | 30.3 | 13.4 | 10.4 | | |
| 44 | Foster | 1.0 | 1.0 | 208.5 | 22.0 | 8.8 | 13.2 | | |
| 37 | G 2120 | 3.3 | 1.0 | 168.0 | 51.0 | 11.5 | 10.9 | | |
| 76 | SIATSA 194 | 1.5 | 1.0 | 225.5 | 14.3 | 12.1 | 17.7 | | |
| 80 | HM-1 | 3.0 | 1.0 | 205.5 | 19.8 | 12.0 | 17.2 | | |
| 81 | Ecuador 1 | 3.3 | 1.0 | 228.0 | 24.0 | 11.6 | 11.8 | | |
| Grand mean | | 2.0 | 1.0 | 208.8 | 27.4 | 10.0 | 14.3 | | |
| Standard error of cultivar mean | | 0.5 | 0.0 | 14.6 | 5.6 | 1.4 | 3.5 | | |
| Coefficient of variation (%) | | 46.3 | 0.0 | 14.0 | 41.0 | 28.7 | 24.6 | | |
| 5% LSD Cultivar means (****=ns) | | 1.3 | **** | 41.6 | 16.0 | 4.1 | **** | | |

Table 43. Trial 815, 1982

| Country: MOROCCO | | | Latitude: 32°N | | | Zone: 10 | | Group: C | |
|---|-------------|---------------|------------------------------------|------------------|-----------------|--------------------|------------------|-----------------|----------------|
| Region: AFRICA | | | Longitude: 5°W | | | Elevation (m): 445 | | | |
| Site: STATION OULAD GNAOY TADLA | | | | | | | | | |
| Cooperator(s): NADAH DRISS | | | | | | | | | |
| Date planted: June 26, 1982 | | | Date harvested: September 25, 1982 | | | | | | |
| Soil type: argilo-calcaire | | | | | | | | | |
| Fertilizer used (kg/ha): N 30.0, P 65.4, K 99.9 | | | | | | | | | |
| Total moisture (mm): 520 | | | | | | | | | |
| Number of irrigations: 10 (502 mm) | | | | | | | | | |
| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
| 86 | Fayette | 2,800.0 | 41.0 | 82.0 | 1.5 | 1.8 | 65.0 | 51.3 | 54.9 |
| 74 | Pella | 2,737.3 | 39.5 | 80.8 | 1.0 | 1.0 | 70.0 | 60.0 | 62.9 |
| 84 | Sparks | 2,667.0 | 41.8 | 87.5 | 1.5 | 1.5 | 40.0 | 51.3 | 70.2 |
| 60 | Kent | 2,608.3 | 43.3 | 90.5 | 2.8 | 2.0 | 40.0 | 61.3 | 64.1 |
| 72 | Amcor | 2,529.0 | 39.5 | 86.8 | 2.8 | 2.8 | 57.5 | 60.0 | 45.0 |
| 88 | Lakota | 2,475.0 | 42.5 | 82.3 | 2.0 | 3.3 | 42.5 | 32.5 | 49.3 |
| 85 | Pixie | 2,254.3 | 41.5 | 82.0 | 2.0 | 1.5 | 48.8 | 58.8 | 38.9 |
| 57 | Corsoy 79 | 2,221.0 | 54.5 | 86.0 | 2.5 | 2.0 | 46.3 | 62.5 | 44.5 |
| 89 | Williams 82 | 2,212.3 | 43.3 | 82.0 | 2.8 | 2.0 | 47.5 | 52.5 | 54.2 |
| 35 | Crawford | 2,146.0 | 52.8 | 86.0 | 3.3 | 3.0 | 51.3 | 63.8 | 57.7 |
| 73 | Century | 2,125.3 | 41.0 | 86.0 | 4.3 | 4.3 | 32.5 | 37.5 | 47.6 |
| 70 | Hardin | 1,966.5 | 41.0 | 86.0 | 3.5 | 3.5 | 31.3 | 36.3 | 40.4 |
| 71 | Hodgson 78 | 1,929.3 | 41.8 | 86.8 | 3.0 | 1.8 | 35.0 | 61.3 | 49.0 |
| 69 | Essex | 1,883.3 | 41.8 | 82.0 | 1.5 | 2.0 | 62.5 | 60.0 | 65.2 |
| 36 | Evans | 1,712.5 | 39.5 | 88.3 | 3.0 | 2.5 | 46.3 | 52.5 | 36.3 |
| 87 | Clay | 1,491.8 | 44.3 | 79.3 | 1.5 | 2.3 | 62.5 | 57.5 | 42.1 |
| Grand mean | | 2,234.9 | 43.1 | 84.6 | 2.4 | 2.3 | 48.7 | 53.7 | 51.4 |
| Standard error of cultivar mean | | 142.7 | 1.8 | 1.6 | 0.7 | 0.5 | 11.3 | 5.9 | 3.7 |
| Coefficient of variation (%) | | 12.8 | 8.4 | 3.7 | 57.9 | 41.8 | 46.6 | 21.9 | 14.6 |
| 5% LSD Cultivar means (*****=ns) | | 406.4 | 5.2 | 4.5 | ***** | 1.4 | ***** | 16.8 | 10.7 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 86 | Fayette | 3.3 | 1.0 | 293.0 | 14.1 | 16.3 | 19.2 | | 99.5 |
| 74 | Pella | 3.8 | 1.0 | 283.8 | 16.6 | 19.8 | 21.0 | | 99.0 |
| 84 | Sparks | 3.8 | 1.0 | 300.3 | 18.1 | 23.3 | 17.7 | | 99.0 |
| 60 | Kent | 3.8 | 1.0 | 295.8 | 12.9 | 17.9 | 17.5 | | 97.3 |
| 72 | Amcor | 2.0 | 1.0 | 251.3 | 15.8 | 15.7 | 17.0 | | 99.0 |
| 88 | Lakota | 2.3 | 1.0 | 320.5 | 11.7 | 14.4 | 16.2 | | 98.3 |
| 85 | Pixie | 1.3 | 1.0 | 307.3 | 16.8 | 11.8 | 18.4 | | 99.3 |
| 57 | Corsoy 79 | 2.5 | 1.0 | 283.0 | 18.6 | 9.8 | 17.0 | | 97.3 |
| 89 | Williams 82 | 3.0 | 1.0 | 287.8 | 13.0 | 15.6 | 18.4 | | 99.0 |
| 35 | Crawford | 3.5 | 1.0 | 324.0 | 11.9 | 16.4 | 17.9 | | 98.8 |
| 73 | Century | 3.0 | 1.0 | 273.3 | 12.4 | 16.7 | 19.8 | | 99.0 |
| 70 | Hardin | 1.3 | 1.0 | 304.5 | 16.8 | 13.8 | 17.3 | | 98.3 |
| 71 | Hodgson 78 | 2.8 | 1.0 | 281.0 | 17.5 | 13.8 | 17.9 | | 97.8 |
| 69 | Essex | 3.8 | 1.0 | 257.0 | 20.7 | 18.5 | 16.3 | | 96.3 |
| 36 | Evans | 1.3 | 1.0 | 317.8 | 15.1 | 11.0 | 16.3 | | 97.5 |
| 87 | Clay | 1.5 | 1.0 | 303.0 | 10.9 | 12.0 | 20.8 | | 97.8 |
| Grand mean | | 2.7 | 1.0 | 292.7 | 15.2 | 15.4 | 18.0 | | 98.3 |
| Standard error of cultivar mean | | 0.4 | 0.0 | 15.2 | 1.4 | 0.8 | 0.9 | | 0.7 |
| Coefficient of variation (%) | | 26.2 | 0.0 | 10.4 | 18.5 | 10.3 | 9.7 | | 1.5 |
| 5% LSD Cultivar means (*****=ns) | | 1.0 | ***** | 43.2 | 4.0 | 2.3 | 2.5 | | ***** |

Table 44. Trial 585, 1982

Country: MOZAMBIQUE

Latitude: 15°04'S

Zone: 5 Group: A

Region: AFRICA

Longitude: 36°30'E

Elevation (m): 670

Site: LIOMA

Cooperator(s): G.O. TOMM, W. SICHMANN

Date planted: January 4, 1983

Date harvested: April 12, 1983

Soil type: loam 56.8%, silt 16.5%, clay 26.7%, pH 6.0

Total moisture (mm): 700

Substituted cultivar(s): Foster

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|--------------|----------------------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 46 | Ecuador 2 | 2,856.3 | 37.0 | 101.8 | | | | | 53.0 |
| 19 | Davis | 2,515.2 | 27.3 | 97.0 | | | | | 37.3 |
| 9 | Jupiter | 2,304.3 | 51.3 | 113.5 | | | | | 61.0 |
| 2 | UFV-1 | 2,145.5 | 40.3 | 107.0 | | | | | 59.8 |
| 89 | Williams 82 | 2,098.6 | 28.0 | 94.5 | | | | | 45.3 |
| 79 | 71-38 | 1,971.0 | 42.3 | 107.8 | | | | | 55.3 |
| 10 | Improved Pelican | 1,955.4 | 37.0 | 97.8 | | | | | 80.0 |
| 77 | ICA L-124 | 1,866.9 | 32.3 | 99.3 | | | | | 58.5 |
| 76 | SIATSA 194 | 1,840.9 | 44.0 | 106.5 | | | | | 90.8 |
| 78 | ISRA/IRAT 44A/73 | 1,838.3 | 44.5 | 104.0 | | | | | 67.0 |
| 43 | Alamo | 1,661.2 | 49.5 | 108.3 | | | | | 60.8 |
| 40 | IGH 24 | 1,640.4 | 52.0 | 122.3 | | | | | 79.8 |
| 45 | ICA L-109 | 1,637.8 | 48.8 | 110.0 | | | | | 85.5 |
| 44 | Foster | 1,377.4 | 25.0 | 93.0 | | | | | 22.3 |
| 64 | ICA L-125 | 1,369.6 | 47.0 | 116.8 | | | | | 92.5 |
| 39 | IGH 23 | 1,239.4 | 51.3 | 112.8 | | | | | 79.0 |
| | Grand mean | 1,894.9 | 41.1 | 105.8 | | | | | 64.2 |
| | Standard error of cultivar mean | 234.9 | 0.7 | 1.4 | | | | | 3.9 |
| | Coefficient of variation (%) | 24.8 | 3.5 | 2.6 | | | | | 12.0 |
| | 5% LSD Cultivar means (*****=ns) | 669.0 | 2.0 | 3.9 | | | | | 11.0 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|--------------|----------------------------------|---------|--------------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 46 | Ecuador 2 | 1.0 | 2.7 ^(B) | 96.8 | | 7.0 | 13.1 | 3.3 | |
| 19 | Davis | 1.0 | 4.3 | 118.0 | | 1.0 | 15.5 | 4.0 | |
| 9 | Jupiter | 1.0 | 1.5 | 83.8 | | 5.3 | 15.4 | 2.8 | |
| 2 | UFV-1 | 1.0 | 2.0 | 127.5 | | 7.3 | 11.9 | 3.3 | |
| 89 | Williams 82 | 1.8 | 2.5 | 76.8 | | 4.8 | 18.4 | 4.5 | |
| 79 | 71-38 | 1.0 | 3.0 | 122.8 | | 5.0 | 9.9 | 2.3 | |
| 10 | Improved Pelican | 2.0 | 3.8 | 112.8 | | 8.3 | 11.8 | 3.3 | |
| 77 | ICA L-124 | 1.0 | 2.0 | 132.8 | | 5.3 | 15.9 | 3.5 | |
| 76 | SIATSA 194 | 2.5 | 3.8 | 138.3 | | 14.0 | 15.4 | 2.3 | |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 3.5 | 119.3 | | 8.8 | 11.2 | 3.0 | |
| 43 | Alamo | 1.3 | 2.0 | 128.5 | | 5.8 | 11.7 | 2.0 | |
| 40 | IGH 24 | 1.0 | 1.5 | 128.0 | | 10.5 | 13.7 | 2.0 | |
| 45 | ICA L-109 | 2.5 | 1.3 | 123.5 | | 5.8 | 10.8 | 2.3 | |
| 44 | Foster | 1.0 | 2.5 | 112.3 | | 0.0 | 14.9 | 4.8 | |
| 64 | ICA L-125 | 1.3 | 1.0 | 127.5 | | 11.3 | 10.9 | 2.0 | |
| 39 | IGH 23 | 1.5 | 1.8 | 161.0 | | 16.0 | 12.6 | 3.0 | |
| | Grand mean | 1.4 | 2.4 | 119.3 | | 7.2 | 13.3 | 3.0 | |
| | Standard error of cultivar mean | 0.3 | 1.3 | 15.7 | | 1.3 | 0.7 | 0.2 | |
| | Coefficient of variation (%) | 45.0 | 51.6 | 26.3 | | 34.8 | 10.1 | 13.7 | |
| | 5% LSD Cultivar means (*****=ns) | 0.9 | ***** | ***** | | 3.6 | 1.9 | 0.6 | |

Table 45. Trial 822, 1982

Country: NEPAL Latitude: 27°46'N Zone: 9 Group: C
 Region: ASIA Longitude: 85°20'E Elevation (m): 1,360
 Site: KHUMALTAR AGRIC. FARM
 Cooperator(s): RAJMAN P. CHAUDHARY, KRISHNA P. SHARMA
 Date planted: June 9, 1982 Date harvested: September 6, 1982
 Soil type: pH 4.8, silt loam to silt clay
 Fertilizer used (kg/ha): N 25.0, P 60.0, K 25.0

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 69 | Essex | 3,118.6 | 53.0 | 113.0 | | | | | 71.9 |
| 35 | Crawford | 2,976.3 | 40.0 | 119.0 | | | | | 80.6 |
| 89 | Williams 82 | 2,770.3 | 40.0 | 98.0 | | | | | 32.6 |
| 74 | Pella | 2,365.0 | 40.0 | 110.0 | | | | | 49.3 |
| 84 | Sparks | 2,243.5 | 53.0 | 113.0 | | | | | 67.2 |
| 60 | Kent | 2,142.8 | 53.0 | 112.0 | | | | | 75.4 |
| 73 | Century | 1,923.7 | 40.0 | 98.0 | | | | | 49.5 |
| 57 | Corsoy 79 | 1,871.8 | 40.0 | 95.0 | | | | | 43.3 |
| 87 | Clay | 1,619.0 | 26.0 | 88.0 | | | | | 26.6 |
| 71 | Hodgson 78 | 1,618.3 | 30.0 | 90.0 | | | | | 49.8 |
| 85 | Pixie | 1,618.3 | 40.0 | 95.0 | | | | | 25.7 |
| 88 | Lakota | 1,569.7 | 31.0 | 93.0 | | | | | 45.3 |
| 72 | Amcor | 1,451.6 | 40.0 | 92.0 | | | | | 28.7 |
| 36 | Evans | 1,448.1 | 29.0 | 89.0 | | | | | 48.6 |
| 86 | Fayette | 1,406.5 | 40.0 | 98.0 | | | | | 59.7 |
| 70 | Hardin | 1,298.8 | 40.0 | 88.0 | | | | | 68.5 |
| Grand mean | | 1,965.1 | 39.7 | 99.4 | | | | | 51.4 |
| Standard error of cultivar mean | | 318.3 | 0.0 | 0.0 | | | | | 3.7 |
| Coefficient of variation (%) | | 32.4 | 0.0 | 0.0 | | | | | 14.6 |
| 5% LSD Cultivar means (*****=ns) | | 906.6 | 0.0 | 0.0 | | | | | 10.7 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 69 | Essex | 1.0 | 1.0 | 174.5 | 23.9 | 10.8 | 16.0 | 2.0 | |
| 35 | Crawford | 1.0 | 1.0 | 184.8 | 24.2 | 11.3 | 15.3 | 3.0 | |
| 89 | Williams 82 | 1.0 | 1.3 | 167.8 | 16.1 | 7.4 | 17.0 | 2.0 | |
| 74 | Pella | 1.0 | 1.0 | 156.0 | 17.1 | 10.1 | 16.5 | 4.0 | |
| 84 | Sparks | 1.0 | 1.0 | 176.0 | 24.7 | 10.8 | 16.3 | 2.0 | |
| 60 | Kent | 1.0 | 1.0 | 191.3 | 26.5 | 12.3 | 18.3 | 2.0 | |
| 73 | Century | 1.0 | 1.0 | 189.8 | 15.4 | 7.2 | 14.8 | 3.0 | |
| 57 | Corsoy 79 | 1.0 | 1.3 | 180.3 | 21.3 | 9.7 | 14.5 | 3.0 | |
| 87 | Clay | 1.0 | 1.5 | 171.3 | 12.6 | 6.1 | 15.8 | 3.0 | |
| 71 | Hodgson 78 | 1.0 | 1.0 | 183.0 | 23.2 | 7.9 | 15.5 | 2.0 | |
| 85 | Pixie | 1.0 | 1.3 | 157.3 | 12.6 | 5.4 | 16.8 | 3.0 | |
| 88 | Lakota | 1.0 | 1.0 | 165.0 | 17.9 | 7.5 | 13.5 | 2.0 | |
| 72 | Amcor | 1.0 | 1.0 | 170.5 | 16.0 | 6.7 | 14.0 | 2.0 | |
| 36 | Evans | 1.0 | 1.0 | 179.5 | 16.5 | 10.4 | 13.0 | 2.0 | |
| 86 | Fayette | 1.0 | 1.0 | 183.0 | 19.7 | 11.1 | 15.8 | 2.0 | |
| 70 | Hardin | 1.0 | 1.0 | 188.5 | 20.6 | 9.5 | 12.3 | 1.0 | |
| Grand mean | | 1.0 | 1.1 | 176.1 | 19.2 | 9.0 | 15.3 | 2.4 | |
| Standard error of cultivar mean | | 0.0 | 0.2 | 7.0 | 1.2 | 0.5 | 0.8 | 0.0 | |
| Coefficient of variation (%) | | 0.0 | 27.9 | 7.9 | 12.8 | 10.0 | 9.9 | 0.0 | |
| 5% LSD Cultivar means (*****=ns) | | ***** | ***** | 19.8 | 3.5 | 1.3 | 2.2 | 0.0 | |

Table 46. Trial 838, 1982

Country: NEPAL

Latitude: 27°40'N

Zone: 7 Group: C

Region: ASIA

Longitude: 84°19'E

Elevation (m): 228

Site: RAMPUR

Cooperator(s): KRISHNA P. SHARMA, SHREE C. SAH

Date planted: June 22, 1982

Date harvested: December 20, 1982

Soil type: loam 72%, silt 15%, clay 13%, pH 6.0

Fertilizer used (kg/ha): N 20.0, P 26.4, K 24.9

Total moisture (mm): 1,209

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|---------------------|-----------------|------------------|-----------------|----------------|
| 85 | Pixie | 1,788.2 | 29.0 | 82.3 | 3.3 | | 91.3 | | 54.0 |
| 35 | Crawford | 1,730.1 | 45.5 | 68.0 | 3.3 | | 98.8 | | 54.0 |
| 69 | Essex | 1,543.5 | 40.5 | 68.0 | 3.5 | | 100.0 | | 55.8 |
| 86 | Fayette | 1,364.7 | 29.0 | 82.0 | 3.0 | | 93.8 | | 74.3 |
| 89 | Williams 82 | 1,275.1 | 27.0 | 82.0 | 4.0 | | 98.8 | | 76.5 |
| 60 | Kent | 1,169.2 | 29.0 | 68.0 | 3.8 | | 86.3 | | 76.8 |
| 84 | Sparks | 1,112.6 | 29.0 | 82.0 | 4.0 | | 90.0 | | 73.0 |
| 73 | Century | 1,070.3 | 21.0 | 82.3 | 4.0 | | 91.3 | | 59.3 |
| 57 | Corsoy 79 | 1,047.8 | 21.0 | 82.0 | 3.5 | | 93.8 | | 58.8 |
| 36 | Evans | 956.8 | 21.0 | 62.5 | 3.5 | | 97.5 | | 50.8 |
| 70 | Hardin | 946.7 | 21.0 | 82.3 | 3.8 | | 91.3 | | 62.0 |
| 72 | Amcor | 917.7 | 27.0 | 83.5 | 3.5 | | 92.5 | | 61.8 |
| 88 | Lakota | 810.1 | 21.0 | 82.0 | 3.8 | | 97.5 | | 65.5 |
| 87 | Clay | 742.2 | 21.0 | 67.8 | 4.0 | | 98.8 | | 55.5 |
| 74 | Pella | 709.1 | 29.0 | 82.5 | 4.0 | | 95.0 | | 67.5 |
| 71 | Hodgson 78 | 671.6 | 21.0 | 63.0 | 4.0 | | 92.5 | | 60.3 |
| Grand mean | | 1,116.0 | 27.0 | 76.3 | 3.7 | | 94.3 | | 62.8 |
| Standard error of cultivar mean | | 162.1 | 0.4 | 1.2 | 0.3 | | 3.1 | | 3.4 |
| Coefficient of variation (%) | | 29.1 | 2.9 | 3.2 | 13.4 | | 6.5 | | 10.9 |
| 5% LSD Cultivar means (****=ns) | | 461.9 | 1.1 | 3.4 | **** | | **** | | 9.7 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 85 | Pixie | 1.0 | 1.0 | 168.3 | 27.5 | 11.8 | 14.2 | 1.3 | 79.0 |
| 35 | Crawford | 2.0 | 1.0 | 159.5 | 26.5 | 12.0 | 14.2 | 1.3 | 59.3 |
| 69 | Essex | 1.8 | 1.0 | 169.0 | 22.5 | 10.5 | 14.3 | 1.0 | 64.3 |
| 86 | Fayette | 1.5 | 1.0 | 168.8 | 28.3 | 14.5 | 12.4 | 2.8 | 38.0 |
| 89 | Williams 82 | 1.5 | 1.5 | 148.3 | 26.5 | 14.3 | 13.9 | 1.3 | 48.0 |
| 60 | Kent | 2.0 | 1.5 | 124.0 | 24.5 | 10.3 | 17.2 | 2.0 | 59.3 |
| 84 | Sparks | 1.3 | 1.8 | 163.0 | 26.3 | 12.0 | 15.2 | 2.5 | 46.5 |
| 73 | Century | 1.3 | 1.8 | 176.8 | 25.0 | 11.8 | 14.8 | 3.8 | 6.3 |
| 57 | Corsoy 79 | 2.3 | 1.5 | 158.5 | 25.8 | 11.0 | 11.9 | 4.0 | 17.8 |
| 36 | Evans | 1.8 | 1.8 | 154.5 | 28.0 | 11.8 | 10.7 | 2.0 | 3.3 |
| 70 | Hardin | 1.8 | 1.8 | 172.3 | 24.0 | 12.0 | 11.9 | 3.8 | 4.3 |
| 72 | Amcor | 2.3 | 1.8 | 156.3 | 23.5 | 12.8 | 12.7 | 2.8 | 20.8 |
| 88 | Lakota | 2.8 | 1.8 | 160.3 | 23.5 | 10.0 | 12.9 | 4.5 | 3.0 |
| 87 | Clay | 2.0 | 2.3 | 161.3 | 27.0 ⁽³⁾ | 12.8 | 11.5 | 2.5 | 4.5 |
| 74 | Pella | 1.3 | 2.5 | 159.8 | 21.0 | 13.8 | 16.0 | 3.0 | 17.5 |
| 71 | Hodgson 78 | 2.5 | 2.0 | 169.5 | 27.8 | 12.8 | 12.6 | 4.0 | 13.3 |
| Grand mean | | 1.8 | 1.6 | 160.6 | 25.4 | 12.1 | 13.5 | 2.6 | 30.3 |
| Standard error of cultivar mean | | 0.3 | 0.3 | 8.8 | 4.9 | 0.8 | 0.5 | 0.4 | 8.9 |
| Coefficient of variation (%) | | 28.4 | 36.7 | 11.0 | 19.3 | 12.3 | 7.8 | 27.3 | 58.9 |
| 5% LSD Cultivar means (****=ns) | | 0.7 | 0.8 | 25.2 | **** | 2.1 | 1.5 | 1.0 | 25.4 |

Table 47. Trial 590, 1982

Country: NEW CALEDONIA Latitude: 21°05'S Zone: 7 Group: A
Region: OCEANIA Longitude: 165°05'E Elevation (m): 2
Site: BOURAIL
Cooperator(s): FRANCOIS DEVINCK, PHILIPPE SEVERAIN
Date planted: November 29, 1982 Date harvested: March 23, 1983
Soil type: pH 6.8, argilo-sableux
Fertilizer used (kg/ha): N 25.0, P 79.2, K 39.6
Total moisture (mm): 510
Number of irrigations: 4 (60 mm)
Substituted cultivar(s): Foster

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|----------------------|----------------|------------------|-----------------|-----------------|---------------------|--------------------|---------------------|
| 10 | Improved Pelican | | 61.0 | 149.3 | | | | | 82.5 |
| 77 | ICA L-124 | | 40.0 | 146.8 | | | | | 58.8 |
| 76 | SIATSA 194 | | 59.0 | 149.8 | | | | | 76.3 |
| 79 | 71-38 | | 62.0 | 149.3 | | | | | 73.8 |
| 89 | Williams 82 | 1,337.8 | 31.3 | 113.0 | | | | | 40.0 |
| 19 | Davis | 602.9 ⁽³⁾ | 40.0 | 126.8 | | | | | 65.0 |
| 44 | Foster | 566.8 ⁽¹⁾ | 38.0 | 126.0 | | | | | 45.0 |
| 43 | Alamo | 341.7 ⁽²⁾ | 59.0 | 129.8 | | | | | 73.8 |
| 78 | ISRA/IRAT 44A/73 | 275.1 | 59.3 | 149.8 | | | | | 78.8 |
| 9 | Jupiter | 238.9 ⁽³⁾ | 64.0 | 148.5 | | | | | 86.3 |
| 46 | Ecuador 2 | 233.4 ⁽¹⁾ | 52.5 | 146.0 | | | | | 83.8 |
| 45 | ICA L-109 | 202.8 ⁽³⁾ | 64.0 | 149.0 | | | | | 91.3 |
| 2 | UFV-1 | 175.0 ⁽¹⁾ | 59.0 | 149.5 | | | | | 82.5 |
| 40 | IGH 24 | 125.0 ⁽¹⁾ | 44.3 | 149.3 | | | | | 98.8 |
| 39 | IGH 23 | 116.7 ⁽¹⁾ | 64.0 | 149.5 | | | | | 87.5 |
| 64 | ICA L-125 | 83.4 ⁽¹⁾ | 70.0 | 149.5 | | | | | 100.0 |
| Grand mean | | 462.8 | 54.2 | 142.6 | | | | | 76.5 |
| Standard error of cultivar mean | | 442.9 | 2.5 | 1.3 | | | | | 4.4 |
| Coefficient of variation (%) | | 95.7 | 9.2 | 1.8 | | | | | 11.5 |
| 5% LSD Cultivar means (*****=ns) | | ***** | 7.1 | 3.7 | | | | | 12.6 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 10 | Improved Pelican | 3.5 | 1.0 | 135.5 | 33.5 | 7.0 | | | |
| 77 | ICA L-124 | 4.8 | 1.0 | 141.3 | 50.8 | 5.8 | | | |
| 76 | SIATSA 194 | 3.3 | 1.0 | 156.3 | 58.8 | 8.0 | | | |
| 79 | 71-38 | 2.5 | 1.0 | 151.0 | 79.8 | 10.3 | | | |
| 89 | Williams 82 | 1.0 | 1.0 | 196.0 | 18.5 | 4.8 | 18.5 | 4.0 | 2.3 |
| 19 | Davis | 2.5 | 1.0 | 172.0 | 36.8 | 14.0 | 18.7 ⁽³⁾ | 4.0 | |
| 44 | Foster | 1.8 | 1.0 | 185.3 | 49.8 | 5.8 | 14.6 ⁽¹⁾ | 4.0 | |
| 43 | Alamo | 1.5 | 1.0 | 172.0 | 49.8 | 6.3 | 17.2 ⁽²⁾ | 4.0 ⁽²⁾ | 12.0 ⁽¹⁾ |
| 78 | ISRA/IRAT 44A/73 | 1.8 | 1.0 | 166.3 | 106.0 | 7.3 | 12.4 | 4.0 | 12.0 ⁽¹⁾ |
| 9 | Jupiter | 1.3 | 1.0 | 142.8 | 62.3 | 10.3 | 17.0 ⁽³⁾ | 4.0 ⁽³⁾ | 3.0 ⁽¹⁾ |
| 46 | Ecuador 2 | 1.3 | 1.0 | 159.0 | 64.5 | 8.0 | 16.7 ⁽¹⁾ | 3.0 ⁽¹⁾ | 2.0 ⁽¹⁾ |
| 45 | ICA L-109 | 3.0 | 1.0 | 158.3 | 82.3 | 11.3 | 11.8 ⁽³⁾ | 4.0 ⁽³⁾ | 3.0 ⁽¹⁾ |
| 2 | UFV-1 | 2.0 | 1.0 | 175.5 | 79.0 | 8.3 | 12.3 ⁽¹⁾ | 3.0 ⁽¹⁾ | 2.0 ⁽¹⁾ |
| 40 | IGH 24 | 1.5 | 1.0 | 159.0 | 49.3 | 8.3 | 18.2 ⁽¹⁾ | 4.0 ⁽¹⁾ | 4.0 ⁽¹⁾ |
| 39 | IGH 23 | 1.8 | 1.0 | 162.3 | 87.5 | 8.0 | 13.4 ⁽¹⁾ | 4.0 ⁽¹⁾ | 8.0 ⁽¹⁾ |
| 64 | ICA L-125 | 1.5 | 1.0 | 145.8 | 39.3 | 8.5 | 13.6 ⁽¹⁾ | 4.0 ⁽¹⁾ | 1.0 ⁽¹⁾ |
| Grand mean | | 2.2 | 1.0 | 161.1 | 59.2 | 8.2 | 15.6 | 3.9 | 4.3 |
| Standard error of cultivar mean | | 0.4 | 0.0 | 12.1 | 10.3 | 1.0 | 3.0 | 0.4 | 3.9 |
| Coefficient of variation (%) | | 35.6 | 0.0 | 15.0 | 34.8 | 23.1 | 19.0 | 10.2 | 90.1 |
| 5% LSD Cultivar means (*****=ns) | | 1.1 | ***** | 34.5 | 29.4 | 2.7 | ***** | ***** | ***** |

Table 48. Trial 523, 1982

Country: NEW HEBRIDES

Latitude: 5°30'S

Zone: 4 Group: A

Region: OCEANIA

Longitude: 67°10'E

Elevation (m): 90

Site: SANTO

Cooperator(s): C. CALVEZ

Date planted: July 9, 1982

Date harvested: October 6, 1982

Soil type: loam 9.1%, silt 8.8%, clay 77.7%, pH 6.65

Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0

Total moisture (mm): 368

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------------|---------------------|----------------|
| 89 | Williams 82 | 3,086.0 | 24.0 | 82.5 | 3.3 | 3.5 | 88.8 | 91.3 | 56.5 |
| 79 | 71-38 | 3,063.1 | 26.0 | 91.0 | 4.0 | 3.5 | 92.5 | 91.3 | 24.8 |
| 19 | Davis | 3,048.5 | 25.5 | 86.5 | 3.8 | 3.8 | 86.3 | 97.5 | 33.0 |
| 2 | UFV-1 | 2,936.0 | 27.8 | 90.0 | 4.0 | 3.8 | 97.5 | 88.8 | 31.0 |
| 78 | ISRA/IRAT 44A/73 | 2,933.9 | 33.5 | 89.0 | 3.8 | 3.0 | 96.3 | 92.5 | 60.0 |
| 76 | SIATSA 194 | 2,856.8 | 34.0 | 90.0 | 3.5 | 2.3 | 97.5 | 95.0 | 81.8 |
| 46 | Ecuador 2 | 2,679.7 | 30.8 | 94.5 | 4.0 | 3.3 | 100.0 | 96.3 | 47.5 |
| 10 | Improved Pelican | 2,669.3 | 26.0 | 82.5 | 4.0 | 3.8 | 97.5 | 100.0 | 67.5 |
| 40 | IGH 24 | 2,569.3 | 39.5 | 100.0 | 4.3 | 4.3 | 85.0 ⁽³⁾ | 96.7 ⁽³⁾ | 78.0 |
| 64 | ICA L-125 | 2,558.8 | 28.5 | 96.0 | 3.8 | 3.8 | 90.0 | 100.0 | 74.3 |
| 43 | Alamo | 2,533.8 | 37.0 | 90.0 | 4.0 | 4.0 | 91.3 | 92.5 | 48.8 |
| 9 | Jupiter | 2,506.8 | 37.3 | 97.0 | 4.5 | 4.0 | 77.5 ⁽²⁾ | 88.8 | 69.0 |
| 44 | Foster | 2,477.6 | 24.0 | 78.0 | 3.8 | 3.5 | 91.3 | 93.8 | 29.5 |
| 45 | ICA L-109 | 2,475.5 | 34.8 | 90.0 | 3.8 | 4.0 | 97.5 | 93.8 | 67.8 |
| 39 | IGH 23 | 2,417.1 | 37.5 | 99.0 | 4.5 | 4.0 | 85.0 ⁽²⁾ | 91.3 | 69.8 |
| 13 | Bossier | 2,385.9 | 24.5 | 82.5 | 3.5 | 3.5 | 97.5 | 90.0 | 29.5 |
| Grand mean | | 2,699.9 | 30.7 | 89.9 | 3.9 | 3.6 | 92.8 | 93.7 | 54.3 |
| Standard error of cultivar mean | | 106.0 | 0.5 | 1.0 | 0.2 | 0.3 | 8.3 | 6.0 | 2.6 |
| Coefficient of variation (%) | | 7.9 | 3.4 | 2.3 | 10.8 | 14.8 | 8.9 | 6.5 | 9.7 |
| 5% LSD Cultivar means (*****=ns) | | 301.8 | 1.5 | 3.0 | 0.6 | 0.8 | ***** | ***** | 7.5 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 89 | Williams 82 | 1.8 | 1.0 | 194.5 | 20.0 | 13.5 | 21.7 | 1.5 | 98.3 |
| 79 | 71-38 | 1.0 | 1.0 | 170.8 | 38.0 | 8.0 | 15.0 | 1.8 | 95.0 |
| 19 | Davis | 1.0 | 1.0 | 182.8 | 26.3 | 7.5 | 19.9 | 1.0 | 77.5 |
| 2 | UFV-1 | 1.0 | 1.0 | 188.0 | 24.8 | 11.3 | 19.3 | 1.5 | 84.5 |
| 78 | ISRA/IRAT 44A/73 | 2.0 | 1.0 | 177.0 | 44.8 | 14.8 | 14.1 | 1.3 | 94.0 |
| 76 | SIATSA 194 | 2.5 | 1.0 | 161.0 | 31.0 | 18.0 | 20.8 | 2.3 | 87.5 |
| 46 | Ecuador 2 | 1.3 | 1.0 | 158.3 | 33.3 | 16.0 | 18.4 | 1.5 | 77.0 |
| 10 | Improved Pelican | 2.0 | 1.0 | 184.0 | 32.3 | 15.3 | 17.7 | 2.0 | 97.5 |
| 40 | IGH 24 | 3.0 | 1.0 | 178.8 | 31.5 | 24.5 | 16.1 | 2.8 | 94.5 |
| 64 | ICA L-125 | 2.0 | 1.0 | 175.5 | 39.5 | 14.5 | 14.4 | 2.3 | 86.5 |
| 43 | Alamo | 1.5 | 1.0 | 172.0 | 25.8 | 17.8 | 16.5 | 2.5 | 80.0 |
| 9 | Jupiter | 2.8 | 1.0 | 171.5 | 27.8 | 22.0 | 18.4 | 1.5 | 74.5 |
| 44 | Foster | 1.0 | 1.0 | 184.5 | 22.5 | 8.8 | 19.6 | 1.3 | 95.8 |
| 45 | ICA L-109 | 2.3 | 1.0 | 166.0 | 47.5 | 13.5 | 13.5 | 1.0 | 92.5 |
| 39 | IGH 23 | 2.5 | 1.0 | 160.5 | 31.0 | 21.8 | 18.7 | 2.8 | 88.0 |
| 13 | Bossier | 1.0 | 1.0 | 187.0 | 22.5 | 7.8 | 22.1 | 1.5 | 95.8 |
| Grand mean | | 1.8 | 1.0 | 175.8 | 31.1 | 14.7 | 17.9 | 1.8 | 88.7 |
| Standard error of cultivar mean | | 0.2 | 0.0 | 8.8 | 3.0 | 1.0 | 0.4 | 0.4 | 6.8 |
| Coefficient of variation (%) | | 20.0 | 0.0 | 10.0 | 19.0 | 13.1 | 4.2 | 39.1 | 15.3 |
| 5% LSD Cultivar means (*****=ns) | | 0.5 | ***** | ***** | 8.4 | 2.7 | 1.1 | 1.0 | ***** |

Table 49. Trial 589, 1982

Country: NICARAGUA Latitude: 12°N Zone: 4 Group: A
 Region: MESO AMERICA Longitude: 84°W Elevation (m): 250
 Site: FINCA SANTA ELENA, NUEVA GUINEA
 Cooperator(s): GERD SCHNEPEL
 Date planted: December 7, 1982 Date harvested: March 1983
 Soil type: OM 4%, N 3.5%, P 12%, K 12%, limo relativamente oscuro (moreno), poco rojo, pH 5.3
 Total moisture (mm): 170
 Substituted cultivar(s): Richardson

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 46 | Ecuador 2 | 2,485.9 | 28.0 | 95.5 | 2.5 | 3.0 | 85.0 | 80.0 | 53.8 |
| 77 | ICA L-124 | 2,346.3 | 27.0 | 92.8 | 4.0 | 4.0 | 92.5 | 87.5 | 61.3 |
| 2 | UFV-1 | 2,321.3 | 27.0 | 95.0 | 2.8 | 2.8 | 81.3 | 86.3 | 45.0 |
| 45 | ICA L-109 | 2,204.6 | 33.3 | 95.0 | 3.5 | 3.3 | 85.0 | 87.5 | 73.8 |
| 79 | 71-38 | 2,096.3 | 27.5 | 94.5 | 4.0 | 3.3 | 80.0 | 78.8 | 40.0 |
| 76 | SIATSA 194 | 2,054.6 | 32.3 | 92.3 | 2.5 | 1.3 | 87.5 | 93.8 | 71.3 |
| 43 | Alamo | 2,046.2 | 34.5 | 95.5 | 3.0 | 3.0 | 86.3 | 83.8 | 56.3 |
| 40 | IGH 24 | 2,015.0 | 37.0 | 97.0 | 3.3 | 3.3 | 88.8 | 85.0 | 66.3 |
| 10 | Improved Pelican | 1,992.1 | 27.5 | 83.5 | 3.5 | 4.0 | 88.8 | 82.5 | 51.3 |
| 9 | Jupiter | 1,952.5 | 37.5 | 94.8 | 3.5 | 3.0 | 71.3 | 80.0 | 71.3 |
| 39 | IGH 23 | 1,923.3 | 33.5 | 96.5 | 3.3 | 3.5 | 71.3 | 83.8 | 72.5 |
| 64 | ICA L-125 | 1,912.9 | 30.5 | 98.0 | 3.3 | 3.0 | 80.0 | 85.0 | 75.0 |
| 78 | ISRA/IRAT 44A/73 | 1,879.5 | 28.3 | 98.0 | 3.3 | 3.3 | 82.5 | 83.8 | 53.3 |
| 19 | Davis | 1,764.9 | 27.0 | 77.3 | 3.5 | 2.0 | 93.8 | 87.5 | 31.3 |
| 89 | Williams 82 | 1,437.8 | 23.0 | 81.5 | 2.5 | 2.5 | 71.3 | 86.3 | 41.3 |
| 251 | Richardson | 1,279.4 | 27.5 | 96.8 | 3.0 | 3.3 | 87.5 | 87.5 | 56.3 |
| 44 | Foster | 806.4 | 24.0 | 76.8 | 3.5 | 2.5 | 62.5 | 86.3 | 31.3 |
| Grand mean | | 1,912.9 | 29.7 | 91.8 | 3.2 | 3.0 | 82.1 | 85.0 | 55.9 |
| Standard error of cultivar mean | | 203.1 | 1.0 | 2.2 | 0.5 | 0.5 | 6.3 | 4.6 | 5.1 |
| Coefficient of variation (%) | | 21.2 | 6.5 | 4.7 | 28.8 | 32.6 | 15.4 | 10.9 | 18.2 |
| 5% LSD Cultivar means (*****=ns) | | 577.4 | 2.8 | 6.2 | ***** | 1.4 | 18.0 | ***** | 14.5 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 46 | Ecuador 2 | 1.0 | 1.0 | 173.0 | 17.0 | 29.0 | 18.3 | 1.5 | 98.5 |
| 77 | ICA L-124 | 1.0 | 1.0 | 167.3 | 17.0 | 11.3 | 24.0 | 2.0 | 98.0 |
| 2 | UFV-1 | 1.0 | 1.0 | 166.3 | 13.3 | 9.3 | 17.3 | 1.0 | 98.5 |
| 45 | ICA L-109 | 1.0 | 1.0 | 165.8 | 18.3 | 9.8 | 15.0 | 1.8 | 96.3 |
| 79 | 71-38 | 1.0 | 1.3 | 156.3 | 14.8 | 9.3 | 15.0 | 1.5 | 85.3 |
| 76 | SIATSA 194 | 1.3 | 1.3 | 161.3 | 16.5 | 13.3 | 22.3 | 1.5 | 95.8 |
| 43 | Alamo | 1.0 | 1.0 | 169.8 | 13.5 | 9.8 | 15.8 | 2.3 | 94.0 |
| 40 | IGH 24 | 1.0 | 1.0 | 166.3 | 17.0 | 14.0 | 20.0 | 1.8 | 94.0 |
| 10 | Improved Pelican | 1.0 | 1.0 | 165.8 | 17.8 | 8.3 | 15.0 | 1.0 | 99.5 |
| 9 | Jupiter | 1.0 | 1.0 | 172.0 | 16.0 | 11.8 | 18.8 | 2.0 | 97.3 |
| 39 | IGH 23 | 1.3 | 1.0 | 172.3 | 16.5 | 15.8 | 23.0 | 2.0 | 97.3 |
| 64 | ICA L-125 | 1.0 | 1.0 | 172.3 | 17.5 | 12.5 | 16.5 | 2.5 | 90.3 |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 1.8 | 164.3 | 17.8 | 8.8 | 15.8 | 2.3 | 97.3 |
| 19 | Davis | 1.0 | 1.0 | 181.0 | 12.8 | 6.5 | 19.3 | 3.0 | 88.0 |
| 89 | Williams 82 | 1.0 | 1.0 | 159.0 | 12.5 | 9.5 | 23.5 | 2.3 | 82.5 |
| 251 | Richardson | 1.0 | 1.0 | 66.3 | 40.8 | 10.0 | 15.5 | 2.0 | 98.8 |
| 44 | Foster | 1.0 | 1.3 | 164.0 | 14.3 | 8.0 | 17.0 | 1.8 | 78.0 |
| Grand mean | | 1.0 | 1.1 | 161.3 | 17.2 | 11.6 | 18.3 | 1.9 | 93.5 |
| Standard error of cultivar mean | | 0.1 | 0.1 | 7.8 | 2.6 | 3.9 | 1.0 | 0.3 | 2.2 |
| Coefficient of variation (%) | | 16.8 | 21.8 | 9.6 | 30.2 | 67.4 | 11.1 | 32.7 | 4.7 |
| 5% LSD Cultivar means (*****=ns) | | ***** | 0.3 | 22.0 | 7.4 | ***** | 2.9 | 0.9 | 6.2 |

Table 50. Trial 820, 1982

Country: PAKISTAN
Region: ASIA

Latitude: 25°02'N
Longitude: 63°38'E

Zone: 7 Group: C
Elevation (m): 19

Site: AGRICULTURAL RESEARCH INSTITUTE, TANDO JAM
Cooperator(s): ALTAF HUSSAIN CHAUDHRY, N. AHMED UMRANI

Date planted: June 19, 1982

Date harvested: September 7, 1982

Fertilizer used (kg/ha): N 120.0, P 75.0

Number of irrigations: 7

Substituted cultivar(s): Bragg

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|--------------|----------------------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|---------------------|----------------|
| 60 | Kent | 2,375.5 | 23.8 | 88.8 | 5.0 | 4.3 | | 80.0 ⁽²⁾ | 70.5 |
| 35 | Crawford | 2,317.1 | 27.3 | 86.8 | 5.0 | 4.3 | | 45.0 ⁽³⁾ | 89.3 |
| 86 | Fayette | 1,867.0 | 23.3 | 81.8 | 5.0 | 4.3 | | 76.7 ⁽³⁾ | 77.8 |
| 84 | Sparks | 1,771.2 | 14.8 | 89.5 | 5.0 | 4.3 | | 55.0 ⁽³⁾ | 85.3 |
| 74 | Pella | 1,667.0 | 21.3 | 87.3 | 5.0 | 4.5 | | 80.0 ⁽²⁾ | 67.3 |
| 73 | Century | 1,533.6 | 16.0 | 81.5 | 5.0 | 4.8 | | 5.0 ⁽¹⁾ | 53.0 |
| 89 | Williams 82 | 1,429.5 | 24.0 | 81.5 | 5.0 | 4.8 | | 80.0 ⁽¹⁾ | 70.8 |
| 72 | Amcor | 1,321.1 | 10.5 | 87.3 | 5.0 | 4.5 | | 30.0 ⁽²⁾ | 48.3 |
| 85 | Pixie | 1,275.3 | 21.5 | 88.8 | 5.0 | 4.5 | | 37.5 ⁽²⁾ | 27.3 |
| 87 | Clay | 1,266.9 | 15.3 | 75.0 | 5.0 | 4.3 | | 51.7 ⁽³⁾ | 34.0 |
| 25 | Bragg | 1,208.6 | 31.3 | 113.8 | 5.0 | 4.8 | | | 60.3 |
| 70 | Hardin | 1,096.0 | 16.3 | 76.3 | 5.0 | 4.5 | | 50.0 ⁽¹⁾ | 40.5 |
| 88 | Lakota | 1,012.7 | 16.0 | 76.0 | 5.0 | 4.3 | | 63.3 ⁽³⁾ | 46.8 |
| 36 | Evans | 991.9 | 12.3 | 83.5 | 5.0 | 3.8 | | 50.0 ⁽³⁾ | 45.0 |
| 57 | Corsoy 79 | 950.2 | 16.5 | 76.8 | 5.0 | 4.5 | | 50.0 ⁽¹⁾ | 38.5 |
| 71 | Hodgson 78 | 621.0 | 17.5 | 84.5 | 5.0 | 4.8 | | 75.0 ⁽¹⁾ | 44.0 |
| | Grand mean | 1,419.0 | 19.2 | 84.9 | 5.0 | 4.4 | | 56.1 | 56.1 |
| | Standard error of cultivar mean | 175.5 | 3.1 | 1.5 | 0.0 | 0.2 | | 22.2 | 4.1 |
| | Coefficient of variation (%) | 24.7 | 32.3 | 3.6 | 0.0 | 10.7 | | 39.6 | 14.4 |
| | 5% LSD Cultivar means (*****=ns) | 499.9 | 8.8 | 4.3 | ***** | ***** | | ***** | 11.6 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 60 | Kent | 1.0 | 1.0 | 82.0 | 42.0 | 9.0 | 15.5 | 1.8 | 79.0 |
| 35 | Crawford | 1.0 | 1.0 | 99.3 | 54.0 | 8.8 | 15.1 | 1.0 | 87.8 |
| 86 | Fayette | 1.0 | 1.0 | 87.0 | 39.5 | 9.0 | 15.1 | 1.8 | 83.5 |
| 84 | Sparks | 1.0 | 1.0 | 72.0 | 39.8 | 10.3 | 15.4 | 1.5 | 80.8 |
| 74 | Pella | 1.0 | 1.0 | 82.3 | 37.5 | 9.8 | 18.2 | 1.3 | 89.5 |
| 73 | Century | 1.0 | 1.0 | 91.0 | 36.5 | 7.0 | 14.1 | 2.5 | 82.5 |
| 89 | Williams 82 | 1.0 | 1.0 | 78.5 | 46.0 | 8.0 | 15.2 | 2.0 | 82.5 |
| 72 | Amcor | 1.0 | 1.0 | 76.3 | 32.5 | 7.5 | 13.6 | 2.8 | 79.3 |
| 85 | Pixie | 1.0 | 1.0 | 64.8 | 27.0 | 6.5 | 16.6 | 1.8 | 92.0 |
| 87 | Clay | 1.0 | 1.0 | 107.5 | 26.0 | 6.5 | 12.6 | 2.0 | 74.3 |
| 25 | Bragg | 1.0 | 1.0 | 35.8 | 86.0 | 10.0 | 12.4 | 2.5 | 76.5 |
| 70 | Hardin | 1.0 | 1.0 | 76.3 | 30.3 | 7.0 | 13.1 | 2.8 | 83.0 |
| 88 | Lakota | 1.0 | 1.0 | 106.0 | 30.3 | 6.3 | 13.6 | 3.5 | 71.5 |
| 36 | Evans | 1.0 | 1.0 | 79.3 | 31.3 | 6.5 | 13.6 | 2.8 | 75.5 |
| 57 | Corsoy 79 | 1.0 | 1.0 | 75.0 | 29.0 | 6.3 | 12.0 | 3.5 | 80.3 |
| 71 | Hodgson 78 | 1.0 | 1.0 | 54.8 | 30.0 | 6.5 | 16.4 | 4.0 | 71.5 |
| | Grand mean | 1.0 | 1.0 | 79.2 | 38.6 | 7.8 | 14.5 | 2.3 | 80.6 |
| | Standard error of cultivar mean | 0.0 | 0.0 | 14.9 | 4.8 | 1.0 | 0.9 | 0.4 | 4.5 |
| | Coefficient of variation (%) | 0.0 | 0.0 | 37.5 | 24.7 | 25.0 | 12.6 | 31.3 | 11.2 |
| | 5% LSD Cultivar means (*****=ns) | ***** | ***** | ***** | 13.6 | 2.8 | 2.6 | 1.0 | ***** |

Table 51. Trial 726, 1982

Country: PARAGUAY Latitude: 25°S Zone: 7 Group: B
 Region: SOUTH AMERICA Longitude: 57°W Elevation (m): 228
 Site: INSTITUTO AGRONOMICO NACIONAL, CAACUPE
 Cooperator(s): OSCAR AGUILERA, ROBERTO CASACCIA, FIDELINO CABRAL, JUSTO LOPEZ, EDGAR ALVAREZ
 Date planted: October 26, 1982 Date harvested: February 19, 1983
 Soil type: loam 82.2%, silt 10.0%, clay 7.8%, pH 4.6
 Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
 Substituted cultivar(s): Visoja, Parana

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 13 | Bossier | 2,979.8 | 44.0 | 173.3 | 1.5 | | 100.0 | | 43.8 |
| 214 | Parana | 2,661.0 | 47.0 | 132.0 | 1.3 | | 100.0 | | 45.5 |
| 83 | CEP 7717 | 2,544.3 | 49.0 | 152.0 | 1.5 | | 98.8 | | 56.8 |
| 261 | Visoja | 2,535.9 | 58.0 | 182.0 | 1.5 | | 95.0 | | 58.3 |
| 44 | Foster | 2,510.9 | 46.0 | 168.0 | 1.5 | | 100.0 | | 41.5 |
| 77 | ICA L-124 | 2,413.0 | 54.0 | 152.0 | 1.5 | | 97.5 | | 67.0 |
| 82 | PK-73-86 | 2,375.5 | 52.0 | 182.0 | 1.0 | | 97.5 | | 50.3 |
| 89 | Williams 82 | 2,338.0 | 35.0 | 109.0 | 2.0 | | 93.8 | | 40.5 |
| 80 | HM-1 | 2,306.7 | 56.0 | 150.0 | 1.3 | | 100.0 | | 56.0 |
| 37 | G 2120 | 2,248.4 | 45.0 | 163.0 | 1.8 | | 93.8 | | 80.5 |
| 75 | Braxton | 2,177.5 | 46.0 | 168.0 | 1.8 | | 100.0 | | 44.0 |
| 47 | PK-73-94 | 2,092.1 | 52.8 | 182.0 | 2.0 | | 97.5 | | 46.3 |
| 19 | Davis | 2,015.0 | 51.0 | 181.0 | 1.5 | | 97.5 | | 45.0 |
| 9 | Jupiter | 1,925.4 | 57.0 | 185.0 | 2.3 | | 95.0 | | 82.8 |
| 76 | SIATSA 194 | 1,894.1 | 73.0 | 168.0 | 1.5 | | 75.0 | | 119.5 |
| 81 | Ecuador 1 | 1,762.9 | 77.0 | 183.8 | 1.8 | | 92.5 | | 78.3 |
| Grand mean | | 2,298.8 | 52.7 | 164.4 | 1.6 | | 95.9 | | 59.7 |
| Standard error of cultivar mean | | 385.9 | 0.6 | 1.9 | 0.4 | | 6.7 | | 4.8 |
| Coefficient of variation (%) | | 33.6 | 2.3 | 2.3 | 48.3 | | 14.1 | | 16.0 |
| 5% LSD Cultivar means (****=ns) | | **** | 1.7 | 5.5 | **** | | **** | | 13.6 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 13 | Bossier | 1.0 | 1.0 | 187.8 | | | 19.3 | 1.5 | 89.5 |
| 214 | Parana | 1.0 | 1.0 | 154.3 | | | 17.3 | 2.8 | 69.0 |
| 83 | CEP 7717 | 1.0 | 1.0 | 216.8 | | | 16.6 | 1.0 | 91.5 |
| 261 | Visoja | 1.3 | 1.0 | 179.8 | | | 16.9 | 1.8 | 83.0 |
| 44 | Foster | 1.0 | 1.0 | 204.3 | | | 14.2 | 2.5 | 45.0 |
| 77 | ICA L-124 | 1.0 | 1.0 | 197.3 | | | 19.0 | 3.3 | 93.5 |
| 82 | PK-73-86 | 1.0 | 1.0 | 208.5 | | | 17.7 | 2.0 | 87.5 |
| 89 | Williams 82 | 1.0 | 1.0 | 193.5 | | | 14.0 | 2.5 | 23.5 |
| 80 | HM-1 | 1.0 | 1.0 | 195.3 | | | 19.6 | 3.0 | 80.0 |
| 37 | G 2120 | 2.8 | 1.0 | 210.8 | | | 15.3 | 2.0 | 85.3 |
| 75 | Braxton | 1.0 | 1.0 | 202.0 | | | 17.3 | 2.5 | 87.5 |
| 47 | PK-73-94 | 1.0 | 1.0 | 203.5 | | | 17.2 | 2.8 | 93.5 |
| 19 | Davis | 1.0 | 1.0 | 214.5 | | | 16.9 | 2.5 | 87.5 |
| 9 | Jupiter | 5.4 | 1.0 | 81.8 | | | 16.9 | 3.0 | 47.0 |
| 76 | SIATSA 194 | 1.8 | 1.0 | 194.3 | | | 17.8 | 2.5 | 87.0 |
| 81 | Ecuador 1 | 1.0 | 1.0 | 200.8 | | | 18.2 | 2.8 | 64.5 |
| Grand mean | | 1.5 | 1.0 | 190.3 | | | 17.1 | 2.4 | 75.9 |
| Standard error of cultivar mean | | 0.9 | 0.0 | 10.0 | | | 1.9 | 0.8 | 6.0 |
| Coefficient of variation (%) | | 124.5 | 0.0 | 10.5 | | | 22.0 | 64.7 | 15.9 |
| 5% LSD Cultivar means (****=ns) | | **** | **** | 28.3 | | | **** | **** | 17.2 |

Table 52. Trial 814, 1982

Country: PORTUGAL Latitude: 38°45'N Zone: 10 Group: C
 Region: EUROPE Longitude: 0°W Elevation (m): 10
 Site: ESTACAO AGRONOMICA NACIONAL, OEIRAS
 Cooperator(s): ABILIO MENDES GASPAR
 Date planted: May 21, 1982 Date harvested: October 9, 1982
 Soil type: loam 57.1%, silt 18.4% clay 24.5%, pH 8.0

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|--------------------|----------------------|---------------|----------------|
| 84 | Sparks | 5,561.9 | 52.5 | 136.5 | 2.8 | 2.5 | 97.5 | 100.0 | 115.8 |
| 72 | Amcor | 4,994.3 | 54.5 | 126.0 | 3.8 | 2.3 | 97.5 | 97.5 | 89.5 |
| 35 | Crawford | 4,550.5 | 65.0 | 140.8 | 4.0 | 2.8 | 100.0 | 97.5 | 122.0 |
| 86 | Fayette | 4,368.4 | 59.0 | 127.0 | 3.8 | 2.3 | 97.5 | 95.0 | 108.8 |
| 36 | Evans | 4,205.0 | 46.5 | 101.0 | 3.5 | 2.5 | 95.0 | 92.5 | 69.8 |
| 60 | Kent | 4,042.1 | 66.3 | 135.8 | 4.3 | 2.5 | 96.7 ⁽³⁾ | 93.8 | 104.3 |
| 74 | Pella | 4,014.5 | 48.5 | 125.8 | 3.8 | 3.0 | 98.3 ⁽³⁾ | 96.3 | 88.8 |
| 89 | Williams 82 | 4,001.6 | 60.0 | 127.0 | 3.5 | 2.3 | 97.5 | 98.8 | 100.3 |
| 73 | Century | 3,949.5 | 51.0 | 127.3 | 3.8 | 3.5 | 100.0 | 92.5 | 102.0 |
| 69 | Essex | 3,907.4 | 93.0 | 158.0 | 4.3 | 2.5 | 100.0 ⁽³⁾ | 100.0 | 127.0 |
| 57 | Corsoy 79 | 3,767.8 | 53.5 | 128.0 | 4.3 | 3.0 | 95.0 ⁽³⁾ | 97.5 | 91.3 |
| 88 | Lakota | 3,699.1 | 48.8 | 120.8 | 3.8 | 2.0 | 98.3 ⁽³⁾ | 100.0 | 112.3 |
| 85 | Pixie | 3,500.3 | 63.5 | 133.5 | 2.8 | 3.0 | 97.5 | 95.0 | 65.0 |
| 70 | Hardin | 3,094.8 | 50.0 | 128.8 | 3.3 | 2.8 | 98.8 | 100.0 | 93.0 |
| 87 | Clay | 2,818.9 | 57.5 | 98.0 | 4.3 | 3.3 | 95.0 ⁽²⁾ | 95.0 | 53.3 |
| 71 | Hodgson 78 | 2,779.7 | 48.0 | 119.3 | 4.0 | 3.0 ⁽³⁾ | 72.5 | 93.8 | 86.8 |
| Grand mean | | 3,953.5 | 57.3 | 127.1 | 3.7 | 2.7 | 96.0 | 96.6 | 95.6 |
| Standard error of cultivar mean | | 424.1 | 1.0 | 1.5 | 0.4 | 1.1 | 11.7 | 2.6 | 4.5 |
| Coefficient of variation (%) | | 21.5 | 3.6 | 2.3 | 23.2 | 39.5 | 12.2 | 5.3 | 9.4 |
| 5% LSD Cultivar means (*****=ns) | | 1,207.9 | 2.9 | 4.1 | ***** | ***** | ***** | ***** | 12.9 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 84 | Sparks | 2.8 | 1.0 | 234.8 | 53.8 | 13.8 | 19.3 | 2.5 | 97.8 |
| 72 | Amcor | 2.3 | 1.0 | 235.0 | 38.3 | 10.0 | 18.4 | 2.0 | 99.0 |
| 35 | Crawford | 3.0 | 1.0 | 230.8 | 60.3 | 12.0 | 17.6 | 2.0 | 97.5 |
| 86 | Fayette | 2.3 | 1.0 | 242.5 | 38.3 | 11.3 | 19.3 | 1.3 | 98.3 |
| 36 | Evans | 1.0 | 1.0 | 241.5 | 34.0 | 9.3 | 16.5 | 1.5 | 96.8 |
| 60 | Kent | 2.3 | 1.0 | 226.0 | 52.8 | 11.0 | 19.0 | 2.3 | 96.3 |
| 74 | Pella | 1.5 | 1.0 | 236.8 | 25.3 | 11.3 | 22.4 | 2.3 | 96.8 |
| 89 | Williams 82 | 2.0 | 1.0 | 238.0 | 32.3 | 10.3 | 18.7 | 2.0 | 98.5 |
| 73 | Century | 2.0 | 1.0 | 223.5 | 42.3 | 11.0 | 20.2 | 2.0 | 96.5 |
| 69 | Essex | 4.0 | 1.0 | 233.8 | 62.3 | 13.8 | 16.2 | 1.8 | 98.5 |
| 57 | Corsoy 79 | 2.0 | 1.0 | 234.5 | 42.8 | 9.3 | 18.2 | 2.5 | 97.5 |
| 88 | Lakota | 3.5 | 1.0 | 224.5 | 35.8 | 12.8 | 18.1 | 3.0 | 95.8 |
| 85 | Pixie | 1.8 | 1.0 | 243.3 | 33.3 | 9.8 | 17.8 | 2.3 | 95.8 |
| 70 | Hardin | 2.0 | 1.0 | 234.8 | 35.3 | 8.5 | 18.3 | 2.0 | 99.3 |
| 87 | Clay | 1.0 | 1.0 | 246.0 | 39.8 | 8.3 | 17.5 | 2.3 | 99.0 |
| 71 | Hodgson 78 | 1.5 | 1.0 | 231.3 | 34.8 | 8.5 | 19.4 | 2.0 | 96.3 |
| Grand mean | | 2.2 | 1.0 | 234.8 | 41.3 | 10.7 | 18.5 | 2.1 | 97.5 |
| Standard error of cultivar mean | | 0.3 | 0.0 | 6.4 | 5.8 | 0.5 | 0.7 | 0.2 | 0.8 |
| Coefficient of variation (%) | | 27.5 | 0.0 | 5.5 | 27.8 | 9.5 | 7.2 | 18.8 | 1.7 |
| 5% LSD Cultivar means (*****=ns) | | 0.9 | ***** | ***** | 16.4 | 1.4 | 1.9 | 0.6 | 2.4 |

Table 53. Trial 541, 1982

Country: PUERTO RICO
Region: MESO AMERICA

Latitude: 18°N
Longitude: 40°W

Zone: 4 Group: A
Elevation (m): 128

Site: ISABELA

Cooperator(s): LUIS CAMACHO, JOSE BRAVO

Date planted: June 22, 1982

Date harvested: not reported

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 76 | SIATSA 194 | 3,037.0 | 45.8 | 111.3 | 3.0 | 1.5 | 100.0 | 90.0 | 96.5 |
| 40 | IGH 24 | 3,004.0 | 57.0 | 126.5 | 4.0 | 2.3 | 97.5 | 78.8 | 88.3 |
| 46 | Ecuador 2 | 2,791.8 | 44.5 | 122.5 | 4.0 | 2.0 | 92.5 | 82.5 | 60.5 |
| 44 | Foster | 2,718.3 | 31.5 | 109.3 | 3.5 | 1.5 | 95.0 | 97.5 | 29.8 |
| 2 | UFV-1 | 2,680.0 | 44.5 | 121.0 | 4.0 | 1.5 | 98.8 | 73.8 | 46.0 |
| 19 | Davis | 2,666.5 | 33.0 | 108.5 | 4.0 | 1.5 | 100.0 | 98.8 | 42.3 |
| 10 | Improved Pelican | 2,661.0 | 43.5 | 109.8 | 4.0 | 2.3 | 95.0 | 81.3 | 90.8 |
| 9 | Jupiter | 2,592.5 | 53.8 | 121.5 | 4.0 | 2.5 | 92.5 | 91.3 | 72.8 |
| 39 | IGH 23 | 2,571.0 | 54.3 | 121.0 | 4.0 | 3.0 | 93.8 | 83.8 | 82.0 |
| 43 | Alamo | 2,533.8 | 50.8 | 118.3 | 4.0 | 2.8 | 100.0 | 87.5 | 54.3 |
| 64 | ICA L-125 | 2,491.8 | 57.3 | 138.5 | 4.0 | 2.0 | 98.8 | 66.3 | 110.5 |
| 45 | ICA L-109 | 2,397.8 | 52.3 | 120.8 | 4.0 | 2.0 | 100.0 | 86.3 | 72.8 |
| 78 | ISRA/IRAT 44A/73 | 2,092.0 | 49.3 | 119.8 | 3.5 | 1.3 | 98.8 | 91.3 | 61.5 |
| 89 | Williams 82 | 1,890.8 | 27.0 | 95.8 | 3.0 | 2.0 | 88.8 | 91.3 | 42.0 |
| 13 | Bossier | 1,887.3 | 29.5 | 108.3 | 4.0 | 2.0 | 97.5 | 97.5 | 28.5 |
| 79 | 71-38 | 1,828.5 | 48.0 | 123.3 | 4.0 | 2.3 | 100.0 | 85.0 | 47.3 |
| Grand mean | | 2,490.2 | 45.1 | 117.2 | 3.8 | 2.0 | 96.8 | 86.4 | 64.1 |
| Standard error of cultivar mean | | 198.9 | 0.5 | 0.8 | 0.3 | 0.3 | 2.8 | 5.1 | 5.1 |
| Coefficient of variation (%) | | 16.0 | 2.3 | 1.3 | 14.0 | 34.1 | 5.8 | 11.8 | 16.0 |
| 5% LSD Cultivar means (*****=ns) | | 566.6 | 1.5 | 2.2 | 0.8 | 1.0 | ***** | 14.5 | 14.6 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 76 | SIATSA 194 | 1.8 | 1.0 | 118.8 | 44.5 | 19.2 | 18.8 | 2.0 | |
| 40 | IGH 24 | 2.0 | 1.0 | 129.8 | 43.5 | 18.3 | 15.5 | 3.3 | |
| 46 | Ecuador 2 | 1.0 | 1.0 | 128.8 | 51.3 | 9.1 | 16.0 | 2.8 | |
| 44 | Foster | 1.0 | 1.0 | 132.3 | 34.3 | 5.6 | 17.7 | 3.8 | |
| 2 | UFV-1 | 1.0 | 1.0 | 131.5 | 46.5 | 8.9 | 12.8 | 2.0 | |
| 19 | Davis | 1.3 | 1.0 | 134.5 | 29.3 | 6.6 | 20.2 | 3.3 | |
| 10 | Improved Pelican | 1.8 | 1.0 | 126.8 | 57.5 | 10.7 | 13.1 | 2.0 | |
| 9 | Jupiter | 1.5 | 1.0 | 129.8 | 57.3 | 15.3 | 16.0 | 2.8 | |
| 39 | IGH 23 | 1.8 | 1.0 | 130.8 | 50.3 | 16.4 | 14.5 | 2.0 | |
| 43 | Alamo | 1.0 | 1.0 | 132.8 | 38.8 | 11.7 | 14.0 | 2.0 | |
| 64 | ICA L-125 | 3.8 | 1.0 | 123.8 | 40.0 | 14.3 | 13.3 | 5.0 | |
| 45 | ICA L-109 | 1.3 | 1.0 | 115.8 | 47.8 | 9.2 | 9.4 | 2.3 | |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 1.0 | 121.5 | 62.3 | 11.5 | 11.8 | 2.8 | |
| 89 | Williams 82 | 1.0 | 1.0 | 131.0 | 26.5 | 5.7 | 21.4 | 4.5 | |
| 13 | Bossier | 1.0 | 1.0 | 116.0 | 32.5 | 5.2 | 18.9 | 3.8 | |
| 79 | 71-38 | 1.0 | 1.0 | 115.8 | 64.5 | 7.7 | 9.6 | 2.0 | |
| Grand mean | | 1.4 | 1.0 | 126.2 | 45.4 | 10.9 | 15.2 | 2.9 | |
| Standard error of cultivar mean | | 0.2 | 0.0 | 5.1 | 4.6 | 1.3 | 0.5 | 0.2 | |
| Coefficient of variation (%) | | 30.5 | 0.0 | 8.1 | 20.1 | 23.5 | 7.0 | 12.3 | |
| 5% LSD Cultivar means (*****=ns) | | 0.6 | ***** | ***** | 13.0 | 3.7 | 1.5 | 0.5 | |

Table 54. Trial 594, 1982

Country: REUNION Latitude: 22°N Zone: 7 Group: A
Region: AFRICA Longitude: 55°E Elevation (m): 125
Site: MON CAPRICE ST. PIERRE
Cooperator(s): DIRECTOR IRAT, J. L. MARCHAND
Date planted: May 6, 1983 Date harvested: August 8, 1983
Fertilizer used (kg/ha): P 26.2, K 29.2
Total moisture (mm): 485
Number of irrigations: 18 (288 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 45 | ICA L-109 | 1,562.8 | 49.3 | 129.0 | 3.3 | | 98.8 | | 51.3 |
| 79 | 71-38 | 1,556.6 | 40.0 | 111.8 | 3.8 | | 100.0 | | 37.5 |
| 19 | Davis | 1,548.2 | 39.5 | 81.5 | 3.8 | | 100.0 | | 34.3 |
| 2 | UFV-1 | 1,529.5 | 41.3 | 117.0 | 3.3 | | 100.0 | | 37.5 |
| 40 | IGH 24 | 1,300.3 | 47.3 | 121.5 | 4.0 | | 100.0 | | 64.8 |
| 89 | Williams 82 | 1,194.0 | 35.5 | 101.3 | 3.3 | | 100.0 | | 32.0 |
| 44 | Foster | 1,160.7 | 36.8 | 90.0 | 3.5 | | 100.0 | | 30.0 |
| 9 | Jupiter | 1,154.4 | 49.3 | 117.0 | 4.0 | | 100.0 | | 73.3 |
| 78 | ISRA/IRAT 44A/73 | 1,133.6 | 47.5 | 132.0 | 2.8 | | 100.0 | | 43.8 |
| 64 | ICA L-125 | 1,083.5 | 40.8 | 128.0 | 3.5 | | 100.0 | | 42.5 |
| 76 | SIATSA 194 | 1,041.9 | 48.5 | 159.3 | 3.3 | | 100.0 | | 60.3 |
| 77 | ICA L-124 | 962.7 | 41.8 | 141.3 | 3.3 | | 100.0 | | 61.5 |
| 43 | Alamo | 841.8 | 46.5 | 135.5 | 4.3 | | 100.0 | | 44.5 |
| 46 | Ecuador 2 | 779.3 | 43.5 | 123.8 | 3.5 | | 100.0 | | 51.0 |
| 10 | Improved Pelican | 762.7 | 40.0 | 135.5 | 4.3 | | 100.0 | | 48.0 |
| 39 | IGH 23 | 750.2 | 51.0 | 135.5 | 3.8 | | 100.0 | | 73.8 |
| Grand mean | | 1,147.6 | 43.6 | 122.5 | 3.6 | | 99.9 | | 49.1 |
| Standard error of cultivar mean | | 131.4 | 1.1 | 7.0 | 0.3 | | 0.6 | | 4.2 |
| Coefficient of variation (%) | | 22.9 | 4.9 | 11.5 | 16.6 | | 0.6 | | 16.9 |
| 5% LSD Cultivar means (****=ns) | | 374.4 | 3.1 | 20.0 | 0.8 | | ***** | | 11.9 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 45 | ICA L-109 | 2.5 | | 232.8 | 23.8 | 11.0 | 14.4 | 2.3 | |
| 79 | 71-38 | 1.0 | | 233.5 | 14.3 | 10.3 | 18.9 | 3.5 | |
| 19 | Davis | 1.0 | | 225.8 | 15.3 | 9.3 | 23.6 | 1.0 | |
| 2 | UFV-1 | 1.0 | | 237.5 | 14.5 | 9.8 | 22.6 | 1.8 | |
| 40 | IGH 24 | 2.8 | | 237.3 | 28.5 | 13.8 | 18.8 | 3.0 | |
| 89 | Williams 82 | 1.0 | | 227.0 | 11.3 | 10.5 | 22.9 | 2.5 | |
| 44 | Foster | 1.5 | | 224.5 | 12.8 | 9.0 | 17.7 | 3.0 | |
| 9 | Jupiter | 3.3 | | 237.0 | 20.5 | 14.5 | 20.6 | 3.5 | |
| 78 | ISRA/IRAT 44A/73 | 1.5 | | 240.3 | 21.3 | 10.3 | 17.8 | 2.5 | |
| 64 | ICA L-125 | 1.0 | | 232.3 | 19.3 | 10.3 | 17.4 | 3.0 | |
| 76 | SIATSA 194 | 2.8 | | 238.8 | 20.3 | 10.8 | 23.6 | 3.0 | |
| 77 | ICA L-124 | 3.5 | | 231.5 | 17.8 | 12.8 | 25.8 | 3.5 | |
| 43 | Alamo | 1.8 | | 236.0 | 17.5 | 8.3 | 15.9 | 3.0 | |
| 46 | Ecuador 2 | 2.0 | | 214.8 | 19.3 | 10.5 | 18.3 | 3.8 | |
| 10 | Improved Pelican | 1.8 | | 228.3 | 19.0 | 10.3 | 19.1 | 2.8 | |
| 39 | IGH 23 | 3.3 | | 239.0 | 22.3 | 12.0 | 19.5 | 3.3 | |
| Grand mean | | 2.0 | | 232.3 | 18.6 | 10.8 | 19.8 | 2.8 | |
| Standard error of cultivar mean | | 0.4 | | 6.7 | 2.7 | 1.1 | 1.2 | 0.3 | |
| Coefficient of variation (%) | | 37.0 | | 5.8 | 29.0 | 19.7 | 12.1 | 18.8 | |
| 5% LSD Cultivar means (****=ns) | | 1.0 | | ***** | 7.7 | 3.0 | 3.4 | 0.8 | |

Table 55. Trial 738, 1982

Country: REUNION

Latitude: 21°07'N

Zone: 7 Group: B

Region: AFRICA

Longitude: 55°03'E

Elevation (m): 125

Site: MON CAPRICE ST. PIERRE

Cooperator(s): DIRECTOR IRAT, J. L. MARCHAND

Date planted: May 10, 1983

Date harvested: August 8, 1983

Fertilizer used (kg/ha): P 26.2, K 29.2

Total moisture (mm): 486

Number of irrigations: 18 (288 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 37 | G 2120 | 1,660.8 | 49.3 | 91.5 | 4.0 | | 100.0 | | 77.5 |
| 81 | Ecuador 1 | 1,542.0 | 45.0 | 109.3 | 2.8 | | 100.0 | | 46.0 |
| 19 | Davis | 1,504.5 | 37.5 | 94.5 | 3.8 | | 100.0 | | 29.3 |
| 83 | CEP 7717 | 1,385.7 | 39.0 | 104.0 | 3.3 | | 100.0 | | 35.8 |
| 35 | Crawford | 1,337.8 | 34.8 | 104.8 | 3.0 | | 100.0 | | 35.5 |
| 9 | Jupiter | 1,246.1 | 48.3 | 115.3 | 3.8 | | 100.0 | | 72.5 |
| 75 | Braxton | 1,183.6 | 36.0 | 100.5 | 3.8 | | 100.0 | | 30.8 |
| 69 | Essex | 1,171.1 | 35.5 | 112.3 | 3.5 | | 100.0 | | 30.5 |
| 89 | Williams 82 | 1,116.9 | 34.0 | 107.0 | 2.8 | | 100.0 | | 30.5 |
| 82 | PK-73-86 | 1,098.1 | 36.8 | 107.0 | 3.8 | | 100.0 | | 30.8 |
| 44 | Foster | 1,091.9 | 35.0 | 91.0 | 4.0 | | 100.0 | | 26.8 |
| 76 | SIATSA 194 | 1,091.9 | 39.8 | 152.0 | 3.0 | | 100.0 | | 48.8 |
| 44 | Foster | 1,089.8 | 34.8 | 84.8 | 3.3 | | 100.0 | | 25.3 |
| 47 | PK-73-94 | 975.2 | 36.3 | 115.3 | 3.3 | | 100.0 | | 33.8 |
| 43 | Alamo | 925.2 | 48.5 | 125.8 | 3.5 | | 100.0 | | 40.8 |
| 77 | ICA L-124 | 821.0 | 40.5 | 142.5 | 3.8 | | 100.0 | | 52.8 |
| | Grand mean | 1,202.6 | 39.4 | 109.8 | 3.4 | | 100.0 | | 40.4 |
| | Standard error of cultivar mean | 124.4 | 0.9 | 9.2 | 0.4 | | 0.0 | | 6.9 |
| | Coefficient of variation (%) | 20.7 | 4.6 | 16.8 | 20.4 | | 0.0 | | 34.1 |
| 5% LSD Cultivar means (*****=ns) | | 354.2 | 2.6 | 26.3 | ***** | | ***** | | 19.6 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|---------------------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 37 | G 2120 | 2.8 | | 227.8 | 46.3 | 14.0 | 13.7 | 4.0 | |
| 81 | Ecuador 1 | 1.3 | | 227.5 | 18.8 | 11.3 | 21.2 | 3.0 | |
| 19 | Davis | 1.0 | | 235.3 | 15.0 | 10.0 | 24.2 | 1.0 | |
| 83 | CEP 7717 | 1.8 | | 222.0 | 23.8 | 11.0 | 17.9 | 2.0 | |
| 35 | Crawford | 1.0 | | 233.3 | 16.0 | 9.8 | 21.9 | 2.3 | |
| 9 | Jupiter | 2.8 | | 222.0 | 22.5 | 13.0 | 20.1 | 3.0 | |
| 75 | Braxton | 1.0 | | 227.3 | 12.5 | 8.8 | 21.2 | 2.0 | |
| 69 | Essex | 1.0 | | 228.5 | 14.5 | 8.8 | 20.8 | 3.0 | |
| 89 | Williams 82 | 1.0 | | 215.0 | 14.3 | 8.0 | 21.6 | 2.8 | |
| 82 | PK-73-86 | 1.3 | | 223.5 | 16.3 | 9.3 | 20.7 | 3.0 | |
| 44 | Foster | 1.0 | | 216.8 | 10.8 | 8.3 | 16.9 | 3.0 | |
| 76 | SIATSA 194 | 1.0 | | 231.3 | 18.3 | 11.3 | 24.0 | 2.8 | |
| 44 | Foster | 1.5 | | 225.8 | 12.0 | 8.3 | 20.0 | 3.0 | |
| 47 | PK-73-94 | 1.3 | | 235.8 | 17.5 | 10.3 | 19.1 | 1.8 | |
| 43 | Alamo | 1.5 | | 233.8 | 20.3 | 10.3 | 17.3 | 2.5 | |
| 77 | ICA L-124 | 2.5 | | 227.3 | 12.3 | 12.0 | 28.0 | 3.3 | |
| | Grand mean | 1.5 | | 227.0 | 18.2 | 10.3 | 20.5 | 2.6 | |
| | Standard error of cultivar mean | 0.4 | | 5.0 | 3.4 | 1.2 | 1.3 | 0.2 | |
| | Coefficient of variation (%) | 49.0 | | 4.4 | 37.2 | 23.6 | 13.1 | 12.1 | |
| 5% LSD Cultivar means (*****=ns) | | 1.0 | | ***** | 9.6 | 3.4 | 3.8 | 0.5 | |

Table 56. Trial 739, 1982

| | | | |
|---------------------------------|-------------------------------|----------------------|----------|
| Country: RWANDA | Latitude: 2°29'S | Zone: 3 | Group: B |
| Region: AFRICA | Longitude: 29°46'E | Elevation (m): 1,650 | |
| Site: RUBONA | | | |
| Cooperator(s): PIERRE NYABYENDA | | | |
| Date planted: March 3, 1983 | Date harvested: June 16, 1983 | | |
| Total moisture (mm): 547 | | | |

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 35 | Crawford | 2,835.0 | 29.0 | 86.3 | 4.0 | 4.0 | 82.5 | 86.3 | 60.7 |
| 89 | Williams 82 | 2,507.5 | 30.8 | 86.8 | 4.0 | 4.0 | 68.8 | 91.3 | 47.6 |
| 82 | PK-73-86 | 2,472.5 | 35.0 | 95.3 | 4.0 | 4.0 | 62.5 | 77.5 | 55.0 |
| 44 | Foster | 2,245.0 | 29.0 | 87.8 | 4.0 | 4.0 | 72.5 | 93.8 | 35.8 |
| 69 | Essex | 2,227.5 | 29.8 | 89.5 | 4.0 | 3.3 | 81.3 | 88.8 | 39.1 |
| 19 | Davis | 2,135.0 | 36.0 | 90.8 | 4.0 | 4.0 | 67.5 | 91.3 | 52.1 |
| 44 | Foster | 2,072.5 | 37.5 | 95.3 | 4.0 | 4.0 | 77.5 | 96.3 | 48.5 |
| 47 | PK-73-94 | 1,985.0 | 31.0 | 89.5 | 4.0 | 4.0 | 60.0 | 87.5 | 43.2 |
| 81 | Ecuador 1 | 1,735.0 | 52.8 | 112.0 | 4.0 | 4.0 | 72.5 | 60.0 | 58.1 |
| 83 | CEP 7717 | 1,650.0 | 48.5 | 99.0 | 4.0 | 4.0 | 58.8 | 78.8 | 73.1 |
| 75 | Braxton | 1,567.5 | 29.8 | 88.8 | 4.0 | 3.5 | 85.0 | 88.8 | 40.3 |
| 9 | Jupiter | 1,547.5 | 72.5 | 130.8 | 4.0 | 4.0 | 71.3 | 6.3 | 95.7 |
| 77 | ICA L-124 | 1,425.0 | 39.5 | 102.3 | 4.0 | 4.0 | 78.8 | 51.3 | 63.1 |
| 76 | SIATSA 194 | 1,327.5 | 55.0 | 112.0 | 4.0 | 1.0 | 76.3 | 5.0 | 108.9 |
| 37 | G 2120 | 1,305.0 | 73.5 | 131.0 | 4.0 | 2.0 | 88.8 | 20.0 | 102.7 |
| 43 | Alamo | 1,280.0 | 57.0 | 112.3 | 4.0 | 1.8 | 67.5 | 0.0 | 74.0 |
| Grand mean | | 1,894.8 | 42.9 | 100.6 | 4.0 | 3.5 | 73.2 | 63.9 | 62.4 |
| Standard error of cultivar mean | | 141.8 | 2.2 | 1.2 | 0.0 | 0.3 | 8.1 | 8.2 | 1.8 |
| Coefficient of variation (%) | | 15.0 | 10.1 | 2.3 | 0.0 | 17.4 | 22.1 | 25.8 | 5.9 |
| 5% LSD Cultivar means (****=ns) | | 404.0 | 6.2 | 3.3 | ***** | 0.9 | ***** | 23.5 | 5.3 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 35 | Crawford | 1.0 | 1.0 | 183.0 | 30.8 | 3.7 | | | |
| 89 | Williams 82 | 1.0 | 1.0 | 198.3 | 25.5 | 3.8 | | | |
| 82 | PK-73-86 | 2.0 | 1.0 | 150.8 | 35.3 | 3.4 | | | |
| 44 | Foster | 1.0 | 1.0 | 190.8 | 25.1 | 3.4 | | | |
| 69 | Essex | 1.0 | 1.0 | 197.5 | 24.0 | 3.6 | | | |
| 19 | Davis | 1.0 | 1.0 | 177.8 | 28.0 | 3.6 | | | |
| 44 | Foster | 1.0 | 1.0 | 119.8 | 33.4 | 4.5 | | | |
| 47 | PK-73-94 | 1.0 | 1.0 | 165.8 | 29.5 | 3.7 | | | |
| 81 | Ecuador 1 | 2.3 | 1.0 | 135.8 | 50.9 | 4.4 | | | |
| 83 | CEP 7717 | 4.0 | 1.0 | 169.3 | 53.4 | 3.8 | | | |
| 75 | Braxton | 1.0 | 1.0 | 193.0 | 16.8 | 4.1 | | | |
| 9 | Jupiter | 2.8 | 2.5 | 131.3 | 45.1 | 4.7 | | | |
| 77 | ICA L-124 | 3.3 | 1.0 | 165.0 | 45.0 | 3.7 | | | |
| 76 | SIATSA 194 | 4.5 | 1.0 | 151.5 | 52.0 | 2.6 | | | |
| 37 | G 2120 | 4.5 | 1.0 | 171.3 | 63.4 | 2.5 | | | |
| 43 | Alamo | 4.3 | 1.0 | 169.0 | 26.7 | 4.7 | | | |
| Grand mean | | 2.2 | 1.1 | 166.8 | 36.5 | 3.7 | | | |
| Standard error of cultivar mean | | 0.3 | 0.4 | 8.9 | 3.7 | 0.1 | | | |
| Coefficient of variation (%) | | 24.2 | 68.6 | 10.6 | 20.3 | 6.7 | | | |
| 5% LSD Cultivar means (****=ns) | | 0.8 | ***** | 25.3 | 10.5 | 0.4 | | | |

Table 57. Trial 741, 1982

| | | | |
|---------------------------------|--------------------|-------------------------------|----------|
| Country: RWANDA | Latitude: 2°16'S | Zone: 3 | Group: B |
| Region: AFRICA | Longitude: 30°17'E | Elevation (m): 1,350 | |
| Site: KARAMA | | | |
| Cooperator(s): PIERRE NYABYENDA | | | |
| Date planted: March 17, 1983 | | Date harvested: June 16, 1983 | |
| Total moisture (mm): 210 | | | |

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|----------------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 69 | Essex | 977.5 | 43.8 | | | | | | |
| 75 | Braxton | 902.5 | 40.0 | | | | | | |
| 82 | PK-73-86 | 877.5 | 40.0 | | | | | | |
| 77 | ICA L-124 | 825.0 | 45.0 | | | | | | |
| 83 | CEP 7717 | 775.0 | 48.0 | | | | | | |
| 19 | Davis | 772.5 | 43.3 | | | | | | |
| 44 | Foster | 683.3 ⁽³⁾ | 36.0 | | | | | | |
| 81 | Ecuador 1 | 670.0 | 52.0 | | | | | | |
| 35 | Crawford | 662.5 | 38.0 | | | | | | |
| 89 | Williams 82 | 637.5 | 38.0 | | | | | | |
| 47 | PK-73-94 | 555.0 | 40.0 | | | | | | |
| 9 | Jupiter | 453.3 ⁽³⁾ | 52.0 | | | | | | |
| 43 | Alamo | 450.0 | 52.0 | | | | | | |
| 18 | Forrest | 360.0 ⁽³⁾ | 38.0 | | | | | | |
| 37 | G 2120 | 230.0 ⁽²⁾ | 60.0 | | | | | | |
| 76 | SIATSA 194 | 225.0 | 52.0 | | | | | | |
| Grand mean | | 648.6 | 44.9 | | | | | | |
| Standard error of cultivar mean | | 336.0 | 0.2 | | | | | | |
| Coefficient of variation (%) | | 51.8 | 0.9 | | | | | | |
| 5% LSD Cultivar means (*****=ns) | | ***** | 0.6 | | | | | | |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 69 | Essex | | | | | | | | |
| 75 | Braxton | | | | | | | | |
| 82 | PK-73-86 | | | | | | | | |
| 77 | ICA L-124 | | | | | | | | |
| 83 | CEP 7717 | | | | | | | | |
| 19 | Davis | | | | | | | | |
| 44 | Foster | | | | | | | | |
| 81 | Ecuador 1 | | | | | | | | |
| 35 | Crawford | | | | | | | | |
| 89 | Williams 82 | | | | | | | | |
| 47 | PK-73-94 | | | | | | | | |
| 9 | Jupiter | | | | | | | | |
| 43 | Alamo | | | | | | | | |
| 18 | Forrest | | | | | | | | |
| 37 | G 2120 | | | | | | | | |
| 76 | SIATSA 194 | | | | | | | | |
| Grand mean | | | | | | | | | |
| Standard error of cultivar mean | | | | | | | | | |
| Coefficient of variation (%) | | | | | | | | | |
| 5% LSD Cultivar means (*****=ns) | | | | | | | | | |

Table 58. Trial 551, 1982

Country: SAUDI ARABIA

Latitude: 25°23'N

Zone: 7 Group: A

Region: MIDDLE EAST

Longitude: 49°30'E

Elevation (m): 145

Site: HOFUF

Cooperator(s): LIN CHUAN CHENG

Date planted: August 8, 1982

Date harvested: November 10, 1982

Fertilizer used (kg/ha): N 100.0, P 44.0, K 33.2

Total moisture (mm): 1,052

Number of irrigations: 10 (1,000 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|--------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 39 | IGH 23 | 1,283.2 | 63.0 | 122.0 | 5.0 | 5.0 | 0.0 | 0.0 | 52.8 |
| 45 | ICA L-109 | 1,204.8 | 62.3 | 120.0 | 5.0 | 5.0 | 0.0 | 0.0 | 55.1 |
| 2 | UFV-1 | 1,126.9 | 63.5 | 116.5 | 5.0 | 5.0 | 0.0 | 0.0 | 33.1 |
| 76 | SIATSA 194 | 1,102.7 | 59.5 | 109.0 | 5.0 | 5.0 | 0.0 | 0.0 | 53.6 |
| 40 | IGH 24 | 1,071.9 | 72.5 | 134.5 | 5.0 | 5.0 | 0.0 | 0.0 | 63.9 |
| 43 | Alamo | 1,051.9 | 61.5 | 114.8 | 5.0 | 5.0 | 0.0 | 0.0 | 29.0 |
| 19 | Davis | 986.5 | 48.0 | 106.3 | 5.0 | 5.0 | 0.0 | 0.0 | 24.7 |
| 9 | Jupiter | 940.2 | 66.0 | 120.5 | 5.0 | 5.0 | 0.0 | 0.0 | 38.7 |
| 78 | ISRA/IRAT 44A/73 | 929.8 | 61.5 | 109.0 | 5.0 | 5.0 | 0.0 | 0.0 | 38.4 |
| 79 | 71-38 | 929.3 | 66.0 | 117.8 | 5.0 | 5.0 | 0.0 | 0.0 | 35.0 |
| 10 | Improved Pelican | 903.9 | 47.5 | 103.8 | 5.0 | 5.0 | 0.0 | 0.0 | 45.8 |
| 13 | Bossier | 870.6 | 48.5 | 107.0 | 5.0 | 5.0 | 0.0 | 0.0 | 16.0 |
| 77 | ICA L-124 | 825.2 | 56.0 | 107.3 | 5.0 | 5.0 | 0.0 | 0.0 | 36.8 |
| 64 | ICA L-125 | 762.7 | 63.5 | 117.8 | 5.0 | 5.0 | 0.0 | 0.0 | 57.5 |
| 46 | Ecuador 2 | 586.0 | 59.5 | 106.0 | 5.0 | 5.0 | 0.0 | 0.0 | 31.6 |
| 89 | Williams 82 | 315.9 | 47.5 | 94.3 | 5.0 | 5.0 | 0.0 | 0.0 | 23.3 |
| | Grand mean | 930.7 | 59.1 | 112.9 | 5.0 | 5.0 | 0.0 | 0.0 | 39.7 |
| | Standard error of cultivar mean | 123.3 | 0.7 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4 |
| | Coefficient of variation (%) | 26.5 | 2.3 | 3.5 | 0.0 | 0.0 | 0.0 | 0.0 | 12.1 |
| | 5% LSD Cultivar means (****=ns) | 351.1 | 2.0 | 5.6 | **** | **** | **** | **** | 6.8 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|--------------|---------------------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 39 | IGH 23 | 1.0 | 1.0 | 137.0 | 34.0 | 22.1 | 10.8 | 2.5 | |
| 45 | ICA L-109 | 1.0 | 1.0 | 149.8 | 24.5 | 17.8 | 9.4 | 2.3 | |
| 2 | UFV-1 | 1.0 | 1.0 | 150.8 | 84.9 | 13.0 | 9.9 | 2.5 | |
| 76 | SIATSA 194 | 1.0 | 1.0 | 127.5 | 30.3 | 13.6 | 12.6 | 1.3 | |
| 40 | IGH 24 | 1.0 | 1.0 | 139.3 | 27.4 | 22.8 | 9.3 | 2.3 | |
| 43 | Alamo | 1.0 | 1.0 | 148.0 | 27.0 | 11.7 | 9.5 | 2.3 | |
| 19 | Davis | 1.0 | 1.0 | 147.8 | 18.2 | 8.5 | 10.9 | 1.0 | |
| 9 | Jupiter | 1.0 | 1.0 | 113.5 | 31.1 | 15.4 | 11.4 | 2.0 | |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 1.0 | 141.5 | 27.7 | 13.6 | 9.2 | 2.3 | |
| 79 | 71-38 | 1.0 | 1.0 | 134.5 | 24.5 | 13.4 | 9.2 | 2.3 | |
| 10 | Improved Pelican | 1.0 | 1.0 | 140.0 | 21.7 | 17.1 | 9.2 | 2.3 | |
| 13 | Bossier | 1.0 | 1.0 | 108.0 | 24.6 | 4.8 | 10.5 | 1.8 | |
| 77 | ICA L-124 | 1.0 | 1.0 | 130.5 | 22.3 | 14.1 | 10.7 | 1.5 | |
| 64 | ICA L-125 | 1.0 | 1.0 | 138.0 | 25.7 | 18.8 | 8.3 | 3.0 | |
| 46 | Ecuador 2 | 1.0 | 1.0 | 96.8 | 17.9 | 11.7 | 9.9 | 2.5 | |
| 89 | Williams 82 | 1.0 | 1.0 | 82.0 | 13.5 | 7.3 | 9.9 | 1.3 | |
| | Grand mean | 1.0 | 1.0 | 130.3 | 28.5 | 14.1 | 10.0 | 2.1 | |
| | Standard error of cultivar mean | 0.0 | 0.0 | 12.5 | 15.3 | 1.2 | 0.3 | 0.2 | |
| | Coefficient of variation (%) | 0.0 | 0.0 | 19.2 | 107.5 | 16.7 | 6.4 | 23.4 | |
| | 5% LSD Cultivar means (****=ns) | **** | **** | 35.6 | **** | 3.4 | 0.9 | 0.7 | |

Table 59. Trial 718, 1982

Country: SAUDI ARABIA Latitude: 25°23'N Zone: 7 Group: B
Region: MIDDLE EAST Longitude: 49°30'E Elevation (m): 145
Site: HOFUF
Cooperator(s): LIN CHUAN CHENG
Date planted: August 8, 1982 Date harvested: November 11, 1982
Fertilizer used (kg/ha): N 100.0, P 44.0, K 33.2
Total moisture (mm): 1,052
Number of irrigations: 10 (1,000 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|----------------------|----------------|---------------------|---------------------|--------------------|---------------------|-----------------|---------------------|
| 76 | SIATSA 194 | 1,159.4 | 59.0 | 112.0 | 5.0 | 5.0 | 0.0 | 0.0 | 53.6 |
| 43 | Alamo | 1,064.4 | 60.8 | 121.5 | 5.0 | 5.0 | 0.0 | 0.0 | 31.1 |
| 81 | Ecuador 1 | 996.4 | 57.0 | 111.0 | 5.0 | 5.0 | 0.0 | 0.0 | 27.0 |
| 19 | Davis | 891.8 | 48.8 | 106.5 | 5.0 | 5.0 | 0.0 | 0.0 | 24.2 |
| 9 | Jupiter | 728.5 | 64.0 | 124.0 | 5.0 | 5.0 | 0.0 | 0.0 | 38.6 |
| 83 | CEP 7717 | 716.0 | 57.0 | 111.5 | 5.0 | 5.0 | 0.0 | 0.0 | 26.6 |
| 47 | PK-73-94 | 681.0 | 49.5 | 105.0 | 5.0 | 5.0 | 0.0 | 0.0 | 23.7 |
| 82 | PK-73-86 | 679.3 | 48.8 | 100.0 | 5.0 | 5.0 | 0.0 | 0.0 | 23.9 |
| 37 | G 2120 | 639.3 | 84.0 | 143.0 | 5.0 | 5.0 | 0.0 | 0.0 | 51.4 |
| 80 | HM-1 | 515.1 | 54.5 | 105.8 | 5.0 | 5.0 | 0.0 | 0.0 | 28.1 |
| 75 | Braxton | 507.2 | 50.5 | 98.0 | 5.0 | 5.0 | 0.0 | 0.0 | 23.0 |
| 35 | Crawford | 484.5 ⁽³⁾ | 48.5 | 96.3 ⁽³⁾ | 5.0 | 5.0 | 0.0 | 0.0 | 21.9 ⁽³⁾ |
| 69 | Essex | 469.7 | 48.5 | 102.5 | 5.0 | 5.0 | 0.0 | 0.0 | 16.5 |
| 13 | Bossier | 449.3 | 48.5 | 107.3 | 5.0 | 5.0 | 0.0 | 0.0 | 16.3 |
| 44 | Foster | 327.2 | 49.0 | 94.5 | 5.0 | 5.0 | 0.0 | 0.0 | 15.0 |
| 89 | Williams 82 | 145.0 | 50.5 | 102.0 | 5.0 | 5.0 | 0.0 | 0.0 | 22.1 |
| Grand mean | | 656.1 | 54.9 | 109.0 | 5.0 | 5.0 | 0.0 | 0.0 | 27.8 |
| Standard error of cultivar mean | | 387.3 | 1.0 | 12.5 | 0.0 | 0.0 | 0.0 | 0.0 | 11.5 |
| Coefficient of variation (%) | | 59.0 | 3.5 | 11.4 | 0.0 | 0.0 | 0.0 | 0.0 | 41.4 |
| 5% LSD Cultivar means (*****=ns) | | ***** | 2.7 | ***** | ***** | ***** | ***** | ***** | ***** |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 76 | SIATSA 194 | 1.0 | 1.0 | 100.8 | 24.9 | 18.2 | 13.7 | 1.3 | |
| 43 | Alamo | 1.0 | 1.0 | 147.0 | 24.7 | 12.3 | 10.0 | 2.5 | |
| 81 | Ecuador 1 | 1.0 | 1.0 | 134.3 | 23.3 | 10.1 | 13.1 | 1.8 | |
| 19 | Davis | 1.0 | 1.0 | 130.3 | 18.9 | 8.5 | 11.8 | 1.0 | |
| 9 | Jupiter | 1.0 | 1.0 | 60.8 | 31.2 | 14.5 | 12.1 | 2.5 | |
| 83 | CEP 7717 | 1.0 | 1.0 | 121.0 | 20.9 | 10.1 | 9.6 | 2.3 | |
| 47 | PK-73-94 | 1.0 | 1.0 | 103.8 | 23.1 | 7.5 | 9.6 | 2.3 | |
| 82 | PK-73-86 | 1.0 | 1.0 | 91.5 | 22.0 | 10.1 | 10.1 | 2.5 | |
| 37 | G 2120 | 1.0 | 1.0 | 105.8 | 35.7 | 20.0 | 4.5 | 4.0 | |
| 80 | HM-1 | 1.0 | 1.0 | 106.0 | 16.1 | 11.0 | 12.7 | 1.5 | |
| 75 | Braxton | 1.0 | 1.0 | 138.5 | 13.0 | 8.8 | 11.2 | 2.3 | |
| 35 | Crawford | 1.0 | 1.0 | 21.3 ⁽³⁾ | 13.8 ⁽³⁾ | 5.8 ⁽³⁾ | 11.3 ⁽³⁾ | 2.0 | |
| 69 | Essex | 1.0 | 1.0 | 119.3 | 12.7 | 5.4 | 10.8 | 1.8 | |
| 13 | Bossier | 1.0 | 1.0 | 84.8 | 19.5 | 5.2 | 11.1 | 1.8 | |
| 44 | Foster | 1.0 | 1.0 | 113.5 | 11.5 | 6.8 | 9.7 | 2.5 | |
| 89 | Williams 82 | 1.0 | 1.0 | 43.8 | 11.5 | 7.1 | 11.9 | 1.8 | |
| Grand mean | | 1.0 | 1.0 | 102.7 | 20.3 | 10.1 | 10.8 | 2.1 | |
| Standard error of cultivar mean | | 0.0 | 0.0 | 44.2 | 8.3 | 4.5 | 2.2 | 0.8 | |
| Coefficient of variation (%) | | 0.0 | 0.0 | 43.0 | 41.0 | 44.2 | 20.2 | 38.1 | |
| 5% LSD Cultivar means (*****=ns) | | ***** | ***** | ***** | ***** | ***** | ***** | ***** | |

Table 60. Trial 540, 1982

Country: SENEGAL Latitude: 12°47'N Zone: 4 Group: A
Region: AFRICA Longitude: 15°22'W Elevation (m): 10
Site: SEFA
Cooperator(s): JACQUES LARCHER
Date planted: July 16, 1982 Date harvested: October 20, 1982
Fertilizer used (kg/ha): N 16.0, P 15.8, K 74.7
Total moisture (mm): 702

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 40 | IGH 24 | 2,846.1 | 55.0 | 107.7 | 4.0 | 2.7 | 91.7 | 71.7 | 76.7 |
| 64 | ICA L-125 | 2,754.4 | 55.0 | 118.0 | 3.0 | 3.0 | 95.0 | 83.3 | 111.4 |
| 2 | UFV-1 | 2,515.0 | 36.3 | 107.3 | 3.7 | 2.3 | 91.7 | 85.0 | 37.5 |
| 9 | Jupiter | 2,506.6 | 45.0 | 107.0 | 3.7 | 2.3 | 98.3 | 90.0 | 66.1 |
| 79 | 71-38 | 2,477.2 | 42.0 | 102.0 | 3.3 | 2.0 | 91.7 | 93.3 | 53.0 |
| 43 | Alamo | 2,402.7 | 39.7 | 103.3 | 4.0 | 2.0 | 96.7 | 96.7 | 50.3 |
| 78 | ISRA/IRAT 44A/73 | 2,399.4 | 44.3 | 99.7 | 2.7 | 2.0 | 95.0 | 81.7 | 64.9 |
| 39 | IGH 23 | 2,135.4 | 55.0 | 108.7 | 3.7 | 2.7 | 95.0 | 91.7 | 85.7 |
| 45 | ICA L-109 | 1,988.7 | 45.0 | 107.0 | 3.7 | 2.3 | 100.0 | 90.0 | 75.9 |
| 13 | Bossier | 1,927.0 | 27.0 | 94.7 | 4.0 | 1.3 | 93.3 | 96.7 | 40.3 |
| 44 | Foster | 1,848.1 | 27.0 | 94.7 | 4.0 | 1.7 | 91.7 | 100.0 | 21.1 |
| 46 | Ecuador 2 | 1,735.4 | 41.0 | 109.7 | 4.0 | 3.0 | 96.7 | 83.3 | 51.9 |
| 19 | Davis | 1,693.7 | 27.0 | 98.0 | 4.0 | 1.7 | 85.0 | 93.3 | 27.9 |
| 76 | SIATSA 194 | 1,691.5 | 43.0 | 107.0 | 4.0 | 2.7 | 100.0 | 93.3 | 95.1 |
| 10 | Improved Pelican | 1,322.5 | 43.0 | 95.3 | 3.3 | 2.0 | 95.0 | 78.3 | 72.1 |
| 89 | Williams 82 | 1,134.7 | 27.0 | 98.0 | 3.3 | 2.3 | 93.3 | 100.0 | 47.9 |
| Grand mean | | 2,086.1 | 40.8 | 103.6 | 3.7 | 2.3 | 94.4 | 89.3 | 61.1 |
| Standard error of cultivar mean | | 223.2 | 1.5 | 2.8 | 0.3 | 0.3 | 3.6 | 5.1 | 4.4 |
| Coefficient of variation (%) | | 18.5 | 6.5 | 4.6 | 13.4 | 24.4 | 6.6 | 9.8 | 12.6 |
| 5% LSD Cultivar means (****=ns) | | 644.6 | 4.5 | 8.0 | 0.8 | 0.9 | **** | 14.6 | 12.8 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 40 | IGH 24 | 1.3 | | 196.7 | 56.5 | 11.2 | 13.8 | 1.7 | |
| 64 | ICA L-125 | 1.7 | | 194.0 | 113.0 | 13.5 | 12.7 | 2.0 | |
| 2 | UFV-1 | 1.0 | | 222.3 | 46.4 | 5.3 | 16.1 | 2.0 | |
| 9 | Jupiter | 1.7 | | 183.7 | 56.3 | 9.9 | 17.6 | 2.0 | |
| 79 | 71-38 | 1.0 | | 187.0 | 79.4 | 7.3 | 11.0 | 3.0 | |
| 43 | Alamo | 1.3 | | 182.3 | 44.1 | 8.2 | 15.9 | 2.0 | |
| 78 | ISRA/IRAT 44A/73 | 1.7 | | 197.7 | 69.4 | 7.8 | 12.8 | 1.7 | |
| 39 | IGH 23 | 2.3 | | 197.3 | 60.2 | 15.1 | 17.4 | 3.3 | |
| 45 | ICA L-109 | 3.3 | | 182.7 | 71.5 | 9.3 | 10.0 | 2.0 | |
| 13 | Bossier | 1.3 | | 182.7 | 35.1 | 6.4 | 16.9 | 3.0 | |
| 44 | Foster | 1.0 | | 140.7 | 29.1 | 4.3 | 18.1 | 4.0 | |
| 46 | Ecuador 2 | 1.0 | | 193.0 | 59.2 | 6.4 | 18.4 | 3.0 | |
| 19 | Davis | 1.0 | | 208.7 | 45.3 | 5.0 | 18.7 | 3.3 | |
| 76 | SIATSA 194 | 2.3 | | 183.0 | 47.9 | 10.9 | 20.3 | 3.7 | |
| 10 | Improved Pelican | 2.3 | | 198.3 | 41.3 | 7.9 | 13.4 | 2.0 | |
| 89 | Williams 82 | 1.0 | | 177.0 | 21.8 | 7.7 | 19.9 | 4.7 | |
| Grand mean | | 1.6 | | 189.2 | 54.8 | 8.5 | 15.8 | 2.7 | |
| Standard error of cultivar mean | | 0.3 | | 18.0 | 8.7 | 1.3 | 0.5 | 0.5 | |
| Coefficient of variation (%) | | 36.7 | | 16.5 | 27.6 | 26.0 | 5.2 | 29.3 | |
| 5% LSD Cultivar means (****=ns) | | 1.0 | | ***** | 25.2 | 3.7 | 1.4 | 1.3 | |

Table 61. Trial 520, 1982

Country: SOMALIA Latitude: 3°30'N Zone: 1 Group: A
Region: AFRICA Longitude: 46°35'E Elevation (m): 50
Site: AFGOI
Cooperator(s): SALAD GIUMALE OSSOBLE, A. A. MOKHTARZADEH
Date planted: October 23, 1982 Date harvested: January 23, 1983
Soil type: loam 14%, silt 16%, clay 70%, pH 7.8
Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
Total moisture (mm): 398

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 64 | ICA L-125 | 1,089.8 | 42.3 | 145.0 | | | | | 61.0 |
| 39 | IGH 23 | 985.6 | 43.0 | 114.0 | | | | | 48.9 |
| 45 | ICA L-109 | 958.5 | 42.8 | 106.5 | | | | | 45.1 |
| 40 | IGH 24 | 871.0 | 43.8 | 123.3 | | | | | 44.6 |
| 78 | ISRA/IRAT 44A/73 | 860.6 | 42.0 | 113.0 | | | | | 38.4 |
| 9 | Jupiter | 777.2 | 48.5 | 111.8 | | | | | 36.6 |
| 2 | UFV-1 | 746.0 | 36.0 | 105.0 | | | | | 29.0 |
| 10 | Improved Pelican | 725.2 | 37.3 | 91.3 | | | | | 46.0 |
| 76 | SIATSA 194 | 718.9 | 41.0 | 115.8 | | | | | 50.8 |
| 43 | Alamo | 708.5 | 40.3 | 108.5 | | | | | 30.0 |
| 46 | Ecuador 2 | 698.1 | 41.5 | 112.0 | | | | | 31.7 |
| 79 | 71-38 | 675.1 | 36.0 | 127.5 | | | | | 27.7 |
| 19 | Davis | 629.3 | 36.0 | 91.3 | | | | | 25.8 |
| 44 | Foster | 596.0 | 32.0 | 89.0 | | | | | 24.5 |
| 13 | Bossier | 395.9 | 33.0 | 89.8 | | | | | 21.9 |
| 89 | Williams 82 | 318.8 | 34.3 | 89.8 | | | | | 25.0 |
| Grand mean | | 734.7 | 39.3 | 108.3 | | | | | 36.7 |
| Standard error of cultivar mean | | 114.8 | 1.5 | 2.3 | | | | | 2.3 |
| Coefficient of variation (%) | | 31.2 | 7.5 | 4.2 | | | | | 12.6 |
| 5% LSD Cultivar means (*****=ns) | | 326.9 | 4.2 | 6.5 | | | | | 6.6 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 64 | ICA L-125 | 2.0 | 2.3 | 163.5 | 42.5 | 12.0 | 14.4 | 3.0 | 13.5 |
| 39 | IGH 23 | 1.8 | 2.8 | 192.3 | 25.5 | 14.3 | 16.0 | 3.3 | 27.3 |
| 45 | ICA L-109 | 1.3 | 1.0 | 228.8 | 22.0 | 9.5 | 11.1 | 3.0 | 36.5 |
| 40 | IGH 24 | 1.5 | 1.3 | 217.5 | 20.0 | 11.9 | 15.0 | 3.8 | 0.8 |
| 78 | ISRA/IRAT 44A/73 | 1.3 | 2.3 | 180.3 | 25.5 | 9.8 | 10.5 | 2.5 | 55.0 |
| 9 | Jupiter | 1.5 | 1.8 | 120.3 | 23.8 | 10.3 | 17.0 | 4.0 | 24.0 |
| 2 | UFV-1 | 1.3 | 1.8 | 171.0 | 18.5 | 8.6 | 12.8 | 2.8 | 15.3 |
| 10 | Improved Pelican | 1.8 | 2.0 | 189.5 | 21.0 | 11.1 | 10.6 | 2.5 | 30.8 |
| 76 | SIATSA 194 | 1.8 | 3.5 | 159.3 | 22.8 | 12.4 | 17.5 | 4.0 | 37.8 |
| 43 | Alamo | 1.5 | 1.8 | 137.0 | 22.3 | 8.4 | 14.4 | 3.3 | 14.8 |
| 46 | Ecuador 2 | 1.0 | 1.8 | 80.8 | 27.3 | 9.9 | 14.5 | 3.0 | 22.3 |
| 79 | 71-38 | 1.3 | 2.5 | 171.0 | 25.3 | 8.8 | 11.2 | 4.5 | 32.8 |
| 19 | Davis | 1.0 | 1.5 | 191.5 | 13.5 | 8.3 | 12.9 | 2.8 | 24.5 |
| 44 | Foster | 1.3 | 1.5 | 222.5 | 13.3 | 8.3 | 12.2 | 2.8 | 21.5 |
| 13 | Bossier | 1.0 | 1.5 | 111.8 | 16.3 | 6.9 | 12.5 | 2.8 | 2.5 |
| 89 | Williams 82 | 1.0 | 2.8 | 130.8 | 11.0 | 9.3 | 16.6 | 3.5 | 6.3 |
| Grand mean | | 1.4 | 2.0 | 166.7 | 21.9 | 10.0 | 13.7 | 3.2 | 22.8 |
| Standard error of cultivar mean | | 0.3 | 0.3 | 14.1 | 2.6 | 0.8 | 0.7 | 0.3 | 7.5 |
| Coefficient of variation (%) | | 36.6 | 34.3 | 16.9 | 23.6 | 15.8 | 10.5 | 20.4 | 66.0 |
| 5% LSD Cultivar means (*****=ns) | | ***** | 1.0 | 40.0 | 7.4 | 2.2 | 2.0 | 0.9 | 21.5 |

Table 62. Trial 710, 1982

Country: SOMALIA Latitude: 3°30'N Zone: 1 Group: B
Region: AFRICA Longitude: 46°35'E Elevation (m): 50
Site: AFGOI
Cooperator(s): SALAD GIUMALE OSSOBLE, A. A. MOKHTARZADEH
Date planted: May 25, 1982 Date harvested: August 27, 1982
Soil type: loam 15%, silt 16%, clay 69%, pH 7.6
Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
Total moisture (mm): 105
Number of irrigations: 4

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 82 | PK-73-86 | 1,806.6 | 29.0 | 102.0 | | | | | 35.2 |
| 19 | Davis | 1,764.9 | 29.0 | 94.0 | | | | | 26.3 |
| 44 | Foster | 1,621.2 | 29.0 | 94.0 | | | | | 25.0 |
| 9 | Jupiter | 1,406.5 | 44.0 | 126.3 | | | | | 54.1 |
| 47 | PK-73-94 | 1,239.8 | 29.0 | 110.5 | | | | | 34.2 |
| 43 | Alamo | 1,183.6 | 41.0 | 124.0 | | | | | 41.0 |
| 89 | Williams 82 | 1,177.3 | 29.0 | 98.0 | | | | | 34.8 |
| 69 | Essex | 1,091.9 | 29.0 | 98.5 | | | | | 24.7 |
| 77 | ICA L-124 | 1,083.5 | 33.0 | 131.5 | | | | | 41.1 |
| 13 | Bossier | 1,037.7 | 29.0 | 107.0 | | | | | 25.1 |
| 83 | CEP 7717 | 1,012.7 | 33.0 | 110.5 | | | | | 40.8 |
| 37 | G 2120 | 991.9 | 49.0 | 130.0 | | | | | 81.9 |
| 75 | Braxton | 975.2 | 29.0 | 106.3 | | | | | 26.2 |
| 81 | Ecuador 1 | 871.0 | 39.0 | 130.0 | | | | | 53.3 |
| 76 | SIATSA 194 | 831.4 | 39.0 | 133.0 | | | | | 66.6 |
| 80 | HM-1 | 677.2 | 29.0 | 130.0 | | | | | 39.4 |
| Grand mean | | 1,173.3 | 33.7 | 114.1 | | | | | 40.6 |
| Standard error of cultivar mean | | 183.8 | 0.0 | 3.3 | | | | | 1.8 |
| Coefficient of variation (%) | | 31.3 | 0.0 | 5.8 | | | | | 8.8 |
| 5% LSD Cultivar means (****=ns) | | 523.4 | 0.0 | 9.4 | | | | | 5.1 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 82 | PK-73-86 | 1.5 | 2.3 | 267.3 | 27.5 | 8.1 | 10.6 | 2.8 | |
| 19 | Davis | 1.5 | 1.0 | 302.3 | 18.3 | 7.3 | 20.3 | 2.5 | |
| 44 | Foster | 1.3 | 1.0 | 341.0 | 19.3 | 6.1 | 10.8 | 2.8 | |
| 9 | Jupiter | 2.3 | 1.3 | 297.8 | 30.5 | 8.1 | 20.7 | 2.8 | |
| 47 | PK-73-94 | 1.0 | 2.8 | 285.0 | 27.0 | 6.8 | 11.4 | 2.8 | |
| 43 | Alamo | 1.8 | 2.0 | 322.0 | 27.8 | 6.8 | 19.5 | 2.5 | |
| 89 | Williams 82 | 2.0 | 1.0 | 280.0 | 20.8 | 6.9 | 21.0 | 3.5 | |
| 69 | Essex | 1.0 | 2.3 | 264.5 | 21.3 | 5.8 | 10.7 | 3.0 | |
| 77 | ICA L-124 | 1.5 | 1.0 | 290.8 | 30.5 | 6.9 | 25.4 | 2.5 | |
| 13 | Bossier | 1.0 | 1.3 | 291.5 | 19.5 | 5.8 | 19.8 | 3.0 | |
| 83 | CEP 7717 | 2.3 | 1.3 | 308.3 | 23.0 | 7.8 | 16.1 | 2.8 | |
| 37 | G 2120 | 2.5 | 2.5 | 292.0 | 100.5 | 7.3 | 9.7 | 2.0 | |
| 75 | Braxton | 1.0 | 1.0 | 310.3 | 18.0 | 6.5 | 10.4 | 3.0 | |
| 81 | Ecuador 1 | 2.8 | 1.3 | 295.3 | 35.0 | 6.3 | 25.6 | 2.8 | |
| 76 | SIATSA 194 | 2.0 | 2.5 | 254.8 | 32.5 | 8.6 | 20.3 | 2.8 | |
| 80 | HM-1 | 1.3 | 2.0 | 301.3 | 22.3 | 6.8 | 20.6 | 3.3 | |
| Grand mean | | 1.7 | 1.6 | 294.0 | 29.6 | 7.0 | 17.1 | 2.8 | |
| Standard error of cultivar mean | | 0.3 | 0.3 | 11.8 | 6.8 | 0.6 | 0.5 | 0.2 | |
| Coefficient of variation (%) | | 31.7 | 36.9 | 8.0 | 45.6 | 16.5 | 5.8 | 16.0 | |
| 5% LSD Cultivar means (****=ns) | | 0.8 | 0.9 | 33.6 | 19.2 | 1.6 | 1.4 | 0.6 | |

Table 63. Trial 527, 1982

Country: SUDAN Latitude: 14°24'N Zone: 4 Group: A
Region: AFRICA Longitude: 33°29'E Elevation (m): 400
Site: GEZIRA RESEARCH STATION, WAD MEDANI
Cooperator(s): OSMAN A. A. AGEEB
Date planted: June 9, 1982 Date harvested: September 1982
Soil type: Suleimi series, clay 75%, pH 8.5, vertisol
Fertilizer used (kg/ha): N 128.0, P 18.9
Total moisture (mm): 220

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|----------------------|----------------|
| 2 | UFV-1 | 3,117.3 | 39.3 | 111.8 | 5.0 | 5.0 | | | 40.8 |
| 78 | ISRA/IRAT 44A/73 | 2,904.8 | 44.5 | 110.8 | 5.0 | 4.5 | | 100.0 ⁽²⁾ | 53.5 |
| 13 | Bossier | 2,748.0 | 27.0 | 99.5 | 5.0 | 5.0 | | | 19.5 |
| 19 | Davis | 2,700.5 | 29.5 | 96.8 | 5.0 | 4.5 | | 100.0 ⁽²⁾ | 26.3 |
| 39 | IGH 23 | 2,696.4 | 48.0 | 117.5 | 5.0 | 5.0 | | | 56.0 |
| 43 | Alamo | 2,671.4 | 48.0 | 108.3 | 5.0 | 4.8 | | | 43.5 |
| 46 | Ecuador 2 | 2,671.4 | 41.3 | 111.8 | 5.0 | 4.3 | | 100.0 ⁽¹⁾ | 44.5 |
| 45 | ICA L-109 | 2,621.4 | 51.0 | 112.0 | 5.0 | 4.3 | | 100.0 ⁽³⁾ | 70.0 |
| 9 | Jupiter | 2,596.3 | 51.8 | 113.5 | 5.0 | 4.5 | | 100.0 ⁽²⁾ | 53.3 |
| 10 | Improved Pelican | 2,483.8 | 39.3 | 99.5 | 5.0 | 4.8 | | 100.0 ⁽¹⁾ | 72.8 |
| 40 | IGH 24 | 2,479.7 | 51.0 | 123.3 | 5.0 | 4.8 | | 100.0 ⁽¹⁾ | 72.3 |
| 76 | SIATSA 194 | 2,417.1 | 44.3 | 107.0 | 5.0 | 3.8 | | 100.0 ⁽³⁾ | 82.3 |
| 44 | Foster | 2,403.4 | 27.8 | 98.5 | 5.0 | 5.0 | | | 18.3 |
| 79 | 71-38 | 2,242.1 | 46.0 | 123.0 | 5.0 | 3.5 | | 100.0 | 46.3 |
| 89 | Williams 82 | 2,100.0 | 23.0 | 81.5 | 5.0 | 5.0 | | | 32.8 |
| 64 | ICA L-125 | 1,542.0 | 54.0 | 121.0 | 5.0 | 3.5 | | 100.0 | 107.5 |
| Grand mean | | 2,524.7 | 41.6 | 108.5 | 5.0 | 4.5 | | 100.0 | 52.5 |
| Standard error of cultivar mean | | 251.4 | 0.4 | 1.0 | 0.0 | 0.4 | | 0.0 | 2.2 |
| Coefficient of variation (%) | | 19.9 | 1.7 | 1.8 | 0.0 | 15.8 | | 0.0 | 8.4 |
| 5% LSD Cultivar means (*****=ns) | | 716.0 | 1.0 | 2.8 | ***** | 1.0 | | 0.0 | 6.3 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 2 | UFV-1 | 1.0 | 1.0 | 124.5 | 41.3 | 5.2 | 12.2 | 1.0 | |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 1.0 | 129.8 | 26.5 | 5.1 | 9.5 | 1.0 | |
| 13 | Bossier | 1.0 | 1.0 | 144.8 | 55.5 | 2.7 | 14.7 | 1.5 | |
| 19 | Davis | 1.0 | 1.0 | 136.8 | 55.0 | 3.6 | 15.5 | 1.5 | |
| 39 | IGH 23 | 2.0 | 1.0 | 126.8 | 28.8 | 6.2 | 11.9 | 1.0 | |
| 43 | Alamo | 1.0 | 1.0 | 153.0 | 36.0 | 4.4 | 11.1 | 1.0 | |
| 46 | Ecuador 2 | 1.0 | 1.0 | 120.8 | 37.5 | 5.9 | 12.5 | 1.8 | |
| 45 | ICA L-109 | 2.0 | 1.3 | 110.5 | 35.5 | 6.7 | 8.5 | 1.0 | |
| 9 | Jupiter | 1.0 | 1.0 | 136.0 | 33.0 | 6.8 | 12.7 | 2.0 | |
| 10 | Improved Pelican | 2.0 | 1.0 | 122.8 | 56.0 | 5.5 | 9.2 | 1.5 | |
| 40 | IGH 24 | 1.0 | 1.0 | 141.5 | 36.3 | 6.4 | 13.3 | 1.8 | |
| 76 | SIATSA 194 | 2.0 | 1.0 | 90.8 | 46.3 | 5.4 | 13.4 | 1.8 | |
| 44 | Foster | 1.0 | 1.0 | 140.3 | 47.3 | 2.9 | 14.0 | 1.0 | |
| 79 | 71-38 | 1.0 | 1.0 | 120.3 | 42.8 | 4.6 | 8.2 | 1.0 | |
| 89 | Williams 82 | 1.0 | 1.0 | 101.3 | 34.0 | 4.3 | 16.5 | 1.3 | |
| 64 | ICA L-125 | 3.3 | 1.0 | 145.0 | 29.8 | 6.8 | 8.4 | 2.0 | |
| Grand mean | | 1.4 | 1.0 | 127.8 | 40.1 | 5.1 | 12.0 | 1.4 | |
| Standard error of cultivar mean | | 0.1 | 0.1 | 8.0 | 3.9 | 0.4 | 0.4 | 0.2 | |
| Coefficient of variation (%) | | 9.0 | 12.3 | 12.6 | 19.4 | 15.8 | 6.6 | 26.0 | |
| 5% LSD Cultivar means (*****=ns) | | 0.2 | ***** | 22.9 | 11.1 | 1.2 | 1.1 | 0.5 | |

Table 64. Trial 532, 1982

Country: SUDAN

Latitude: 17°35'N

Zone: 4 Group: A

Region: AFRICA

Longitude: 33°27'E

Elevation (m): 353

Site: HUDEIBA RESEARCH STATION, ED DAMER

Cooperator(s): GAAFAR EL SARRAG MOHAMED

Date planted: July 6, 1982

Date harvested: October 14, 1982

Soil type: 7.6 pH

Fertilizer used (kg/ha): N 25.0

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 89 | Williams 82 | 872.7 | 25.0 | 90.0 | 4.0 (2) | 4.0 (1) | 100.0 (2) | 100.0 (1) | 42.0 |
| 43 | Alamo | 797.2 | 53.0 | 99.3 | | 4.0 | | 100.0 (1) | 42.3 |
| 9 | Jupiter | 719.3 | 54.0 | 109.3 | 4.0 (1) | 4.0 (2) | 100.0 (1) | 100.0 (2) | 42.0 |
| 46 | Ecuador 2 | 588.9 | 48.0 | 112.5 | 4.0 | | 100.0 | | 40.8 |
| 2 | UFV-1 | 587.2 | 46.0 | 108.8 | | 4.0 | | 100.0 (2) | 38.0 |
| 39 | IGH 23 | 560.1 | 53.0 | 110.0 | 4.0 | | 100.0 | | 55.0 |
| 13 | Bossier | 474.3 | 31.0 | 103.0 | 4.0 (3) | 4.0 (3) | 66.7 (3) | 100.0 (3) | 21.0 |
| 10 | Improved Pelican | 455.9 | 40.0 | 95.3 | 4.0 | | 100.0 | | 62.5 |
| 19 | Davis | 442.6 | 34.0 | 105.0 | 4.0 (1) | 4.0 (1) | 100.0 (1) | 100.0 (1) | 26.3 |
| 40 | IGH 24 | 383.0 | 55.0 | 110.0 | 4.0 (1) | 4.0 (2) | 100.0 (1) | 100.0 (2) | 63.5 |
| 44 | Foster | 364.7 | 31.0 | 105.0 | 4.0 | | 100.0 | | 20.8 |
| 45 | ICA L-109 | 315.1 | 60.0 | 107.5 | 4.0 | 4.0 (1) | 100.0 | 100.0 (1) | 58.0 |
| 76 | SIATSA 194 | 284.2 | 47.0 | 115.0 | 4.0 (2) | 4.0 (1) | 50.0 (2) | 100.0 (1) | 57.5 |
| 78 | ISRA/IRAT 44A/73 | 284.2 | 54.0 | 108.8 | 4.0 | | 100.0 | | 46.5 |
| 79 | 71-38 | 276.3 | 53.0 | 111.3 | 4.0 (3) | 4.0 (2) | 100.0 (3) | 100.0 (2) | 48.8 |
| 64 | ICA L-125 | 83.4 | 58.8 | 112.5 | 4.0 (3) | 4.0 (3) | 100.0 (3) | 100.0 (3) | 61.0 |
| | Grand mean | 468.1 | 46.4 | 106.4 | 4.0 | 4.0 | 92.6 | 100.0 | 45.4 |
| | Standard error of cultivar mean | 85.3 | 0.1 | 1.8 | 0.0 | 0.0 | 26.7 | 0.0 | 3.3 |
| | Coefficient of variation (%) | 36.4 | 0.3 | 3.3 | 0.0 | 0.0 | 28.8 | 0.0 | 14.4 |
| 5% LSD Cultivar means (****=ns) | | 242.9 | 0.2 | 5.1 | 0.0 | 0.0 | **** | 0.0 | 9.3 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 89 | Williams 82 | 1.0 | 1.0 | 168.8 | 21.5 | 5.5 | 13.2 | 1.8 | 31.0 |
| 43 | Alamo | 1.3 | 1.0 | 128.8 | 31.6 | 13.1 | 8.3 | 3.0 | 39.0 |
| 9 | Jupiter | 1.0 | 1.0 | 100.3 | 29.2 | 16.0 | 10.5 | 2.8 | 51.0 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 119.5 | 24.6 | 10.6 | 10.5 | 1.0 | 51.0 |
| 2 | UFV-1 | 1.0 | 1.0 | 87.8 | 34.6 | 11.7 | 7.4 | 2.5 | 61.0 |
| 39 | IGH 23 | 1.0 | 1.3 | 100.8 | 11.5 | 17.6 | 10.3 | 2.8 | 35.0 |
| 13 | Bossier | 1.0 | 1.0 | 90.3 | 21.0 | 5.3 | 12.4 | 2.0 | 50.0 |
| 10 | Improved Pelican | 2.0 | 1.3 | 108.3 | 13.7 | 24.0 | 9.0 | 3.8 | 32.0 |
| 19 | Davis | 1.0 | 1.3 | 117.5 | 16.7 | 10.3 | 14.5 | 2.5 | 62.0 |
| 40 | IGH 24 | 1.0 | 1.0 | 113.0 | 11.9 | 17.1 | 8.3 | 2.5 | 55.0 |
| 44 | Foster | 1.0 | 1.0 | 98.8 | 16.2 | 6.8 | 11.3 | 4.0 | 23.0 |
| 45 | ICA L-109 | 1.5 | 1.3 | 98.5 | 21.2 | 22.0 | 6.8 | 3.8 | 60.0 |
| 76 | SIATSA 194 | 1.0 | 1.0 | 66.3 | 28.5 | 16.3 | 10.3 | 4.3 | 13.0 |
| 78 | ISRA/IRAT 44A/73 | 1.0 | 1.0 | 82.3 | 18.6 | 20.2 | 8.3 | 1.5 | 60.0 |
| 79 | 71-38 | 1.3 | 1.0 | 80.0 | 22.0 | 25.2 | 4.9 | 3.8 | 20.0 |
| 64 | ICA L-125 | 1.0 | 1.0 | 78.3 | 4.6 | 36.8 | 5.1 | 2.8 | 87.0 |
| | Grand mean | 1.1 | 1.1 | 102.4 | 20.5 | 16.1 | 9.4 | 2.8 | 45.6 |
| | Standard error of cultivar mean | 0.1 | 0.1 | 14.0 | 5.2 | 3.0 | 0.4 | 0.3 | 0.0 |
| | Coefficient of variation (%) | 20.4 | 23.8 | 27.4 | 50.5 | 37.5 | 7.8 | 22.9 | 0.0 |
| 5% LSD Cultivar means (****=ns) | | 0.3 | **** | 39.9 | 14.7 | 8.6 | 1.1 | 0.9 | 0.0 |

Table 65. Trial 545, 1982

Country: SUDAN Latitude: 11°N Zone: 4 Group: A
Region: AFRICA Longitude: 29°45'E Elevation (m): 264
Site: KADUGLI AGRIC. RESEARCH STATION
Cooperator(s): MUKHTAR MEKEI KANANI, IBRAHIM IOWELOLADINA
Date planted: July 8, 1982 Date harvested: September 25, 1982
Soil type: dark cracking clay
Total moisture (mm): 276

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 64 | ICA L-125 | 523.0 | 47.0 | 102.5 | 4.0 | 2.0 | 81.3 | 80.0 | 37.3 |
| 39 | IGH 23 | 487.6 | 49.0 | 99.0 | 4.3 | 4.8 | 70.0 | 83.8 | 32.0 |
| 40 | IGH 24 | 462.6 | 48.5 | 102.3 | 4.8 | 4.3 | 40.0 | 86.3 | 32.3 |
| 79 | 71-38 | 418.8 | 44.0 | 100.0 | 4.5 | 4.0 | 37.5 | 81.3 | 19.0 |
| 2 | UFV-1 | 377.2 | 43.8 | 99.0 | 4.5 | 4.0 | 53.8 | 62.5 | 17.8 |
| 77 | ICA L-124 | 364.7 | 39.5 | 97.0 | 4.0 | 4.0 | 78.8 | 83.8 | 26.5 |
| 76 | SIATSA 194 | 364.7 | 48.5 | 93.5 | 4.0 | 3.5 | 83.8 | 77.5 | 32.5 |
| 43 | Alamo | 331.3 | 47.5 | 93.0 | 4.8 | 4.3 | 53.8 | 70.0 | 23.0 |
| 19 | Davis | 318.8 | 36.0 | 93.5 | 4.3 | 4.3 | 70.0 | 78.8 | 19.5 |
| 9 | Jupiter | 316.7 | 49.0 | 95.3 | 4.5 | 4.3 | 73.8 | 272.5 | 28.3 |
| 46 | Ecuador 2 | 270.9 | 46.0 | 95.3 | 5.0 | 4.8 | 41.3 | 71.3 | 23.5 |
| 78 | ISRA/IRAT 44A/73 | 270.9 | 47.5 | 93.5 | 4.3 | 3.5 | 80.0 | 85.0 | 22.5 |
| 45 | ICA L-109 | 258.4 | 50.0 | 95.5 | 4.0 | 4.0 | 70.0 | 87.5 | 27.0 |
| 13 | Bossier | 229.2 | 32.5 | 86.0 | 4.3 | 4.3 | 73.8 | 60.0 | 15.8 |
| 89 | Williams 82 | 227.1 | 32.0 | 86.5 | 4.0 | 4.0 | 81.3 | 55.0 | 20.8 |
| 10 | Improved Pelican | 170.9 | 43.3 | 83.0 | 4.5 | 4.8 | 30.0 | 42.5 | 26.8 |
| Grand mean | | 337.1 | 44.0 | 94.7 | 4.3 | 4.0 | 63.7 | 86.1 | 25.3 |
| Standard error of cultivar mean | | 38.1 | 0.9 | 2.1 | 0.2 | 0.3 | 8.9 | 46.7 | 1.6 |
| Coefficient of variation (%) | | 22.6 | 4.2 | 4.4 | 10.0 | 12.7 | 27.9 | 108.5 | 12.6 |
| 5% LSD Cultivar means (*****=ns) | | 108.5 | 2.6 | 5.9 | 0.6 | 0.7 | 25.3 | ***** | 4.5 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 64 | ICA L-125 | 1.0 | 1.0 | 95.5 | 24.5 | 2.1 | 9.3 | 1.8 | 48.8 |
| 39 | IGH 23 | 1.5 | 1.0 | 95.3 | 15.5 | 2.2 | 12.5 | 2.8 | 31.0 |
| 40 | IGH 24 | 1.0 | 1.0 | 98.8 | 18.8 | 2.4 | 10.2 | 1.8 | 21.5 |
| 79 | 71-38 | 1.0 | 1.0 | 87.0 | 21.5 | 2.3 | 8.4 | 3.5 | 5.5 |
| 2 | UFV-1 | 1.0 | 1.0 | 94.3 | 17.3 | 2.3 | 11.6 | 3.0 | 23.0 |
| 77 | ICA L-124 | 1.3 | 1.0 | 95.8 | 14.5 | 2.5 | 14.2 | 2.5 | 19.8 |
| 76 | SIATSA 194 | 1.3 | 1.0 | 102.5 | 13.3 | 3.3 | 11.8 | 2.8 | 26.3 |
| 43 | Alamo | 1.5 | 1.0 | 82.5 | 16.0 | 1.9 | 10.4 | 3.8 | 16.5 |
| 19 | Davis | 1.3 | 1.0 | 105.0 | 14.3 | 2.2 | 12.8 | 3.8 | 16.5 |
| 9 | Jupiter | 1.3 | 1.0 | 84.5 | 12.5 | 2.2 | 11.1 | 3.3 | 11.5 |
| 46 | Ecuador 2 | 1.3 | 1.0 | 84.5 | 14.8 | 2.2 | 11.4 | 2.5 | 18.0 |
| 78 | ISRA/IRAT 44A/73 | 1.3 | 1.0 | 95.5 | 15.5 | 2.0 | 9.2 | 2.5 | 19.5 |
| 45 | ICA L-109 | 1.0 | 1.0 | 92.8 | 12.8 | 2.6 | 7.8 | 2.8 | 24.5 |
| 13 | Bossier | 1.0 | 1.0 | 83.3 | 10.5 | 3.3 | 12.7 | 3.3 | 6.5 |
| 89 | Williams 82 | 1.0 | 1.0 | 96.5 | 8.8 | 4.7 | 14.2 | 3.0 | 17.0 |
| 10 | Improved Pelican | 1.0 | 1.0 | 103.3 | 11.8 | 2.4 | 9.2 | 4.0 | 17.5 |
| Grand mean | | 1.2 | 1.0 | 93.6 | 15.1 | 2.5 | 11.0 | 2.9 | 20.2 |
| Standard error of cultivar mean | | 0.2 | 0.0 | 7.2 | 1.5 | 0.2 | 0.5 | 0.3 | 5.5 |
| Coefficient of variation (%) | | 32.1 | 0.0 | 15.4 | 19.7 | 17.2 | 9.4 | 23.4 | 54.6 |
| 5% LSD Cultivar means (*****=ns) | | ***** | ***** | ***** | 4.2 | 0.6 | 1.5 | 1.0 | 15.7 |

Table 66. Trial 711, 1982

Country: SUDAN Latitude: 14°24'N Zone: 4 Group: C
Region: AFRICA Longitude: 33°29'E Elevation (m): 400
Site: GEZIRA RESEARCH STATION, WAD MEDANI
Cooperator(s): OSMAN A. A. AGEEB
Date planted: June 9, 1982 Date harvested: September 1982
Soil type: vertisol, Suleimi series, clay 75%, pH 8.5
Fertilizer used (kg/ha): N 128.0, P 18.9
Total moisture (mm): 221

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|--------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|----------------------|----------------------|----------------|
| 9 | Jupiter | 2,725.5 | 49.3 | 116.5 | 5.0 | 4.5 | | 100.0 ⁽²⁾ | 48.5 |
| 77 | ICA L-124 | 2,717.2 | 32.0 | 93.0 | 5.0 | 4.5 | | 100.0 ⁽²⁾ | 33.3 |
| 76 | SIATSA 194 | 2,713.0 | 43.3 | 104.8 | 5.0 | 4.3 | | 100.0 ⁽¹⁾ | 80.3 |
| 43 | Alamo | 2,712.2 | 50.0 | 106.3 | 5.0 | 5.0 | | | 35.8 |
| 13 | Bossier | 2,575.5 | 26.0 | 93.0 | 5.0 | 5.0 | | | 16.5 |
| 19 | Davis | 2,529.7 | 30.0 | 93.0 | 5.0 | 4.5 | | 100.0 ⁽²⁾ | 20.3 |
| 75 | Braxton | 2,517.2 | 26.0 | 92.5 | 5.0 | 5.0 | | | 22.0 |
| 44 | Foster | 2,454.7 | 26.0 | 93.0 | 5.0 | 5.0 | | | 19.5 |
| 81 | Ecuador 1 | 2,446.3 | 43.5 | 111.0 | 5.0 | 4.5 | | 100.0 ⁽²⁾ | 39.0 |
| 82 | PK-73-86 | 2,271.3 | 29.8 | 101.8 | 5.0 | 5.0 | | | 25.3 |
| 80 | HM-1 | 2,229.6 | 47.0 | 111.5 | 5.0 | 5.0 | | | 28.5 |
| 83 | CEP 7717 | 2,117.1 | 38.5 | 93.0 | 5.0 | 4.5 | | 100.0 ⁽²⁾ | 30.5 |
| 47 | PK-73-94 | 2,075.4 | 33.8 | 106.8 | 5.0 | 5.0 | | | 22.3 |
| 89 | Williams 82 | 1,858.7 | 21.0 | 81.8 | 4.8 | 4.3 | 100.0 ⁽¹⁾ | 100.0 ⁽³⁾ | 28.5 |
| 69 | Essex | 1,846.2 | 24.0 | 92.5 | 5.0 | 4.0 | | 100.0 ⁽²⁾ | 16.3 |
| 37 | G 2120 | 1,229.4 | 52.0 | 106.5 | 4.5 | 4.0 | 100.0 ⁽²⁾ | 100.0 ⁽²⁾ | 91.5 |
| | Grand mean | 2,313.7 | 35.8 | 99.8 | 5.0 | 4.6 | 100.0 | 100.0 | 34.9 |
| | Standard error of cultivar mean | 255.6 | 0.4 | 1.1 | 0.1 | 0.4 | 0.0 | 0.0 | 1.9 |
| | Coefficient of variation (%) | 22.1 | 2.2 | 2.1 | 3.9 | 15.8 | 0.0 | 0.0 | 10.7 |
| | 5% LSD Cultivar means (****=ns) | 728.1 | 1.1 | 3.0 | 0.3 | ***** | 0.0 | 0.0 | 5.3 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|--------------|---------------------------------|---------|--------------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 9 | Jupiter | 1.0 | 1.0 | 114.8 | 43.0 | 5.1 | 14.1 | 1.5 | |
| 77 | ICA L-124 | 1.0 | 1.0 | 135.8 | 42.3 | 4.0 | 14.9 | 1.8 | |
| 76 | SIATSA 194 | 2.0 | 1.0 ⁽²⁾ | 116.8 | 50.8 | 6.6 | 12.7 | 2.3 | |
| 43 | Alamo | 1.0 | 1.0 | 142.5 | 37.0 | 3.1 | 12.1 | 1.8 | |
| 13 | Bossier | 1.0 | 1.0 | 107.3 | 56.0 | 2.5 | 12.8 | 2.8 | |
| 19 | Davis | 1.0 | 1.0 | 119.3 | 52.0 | 2.6 | 13.8 | 2.0 | |
| 75 | Braxton | 1.0 | 1.0 | 150.8 | 42.5 | 2.9 | 15.2 | 2.0 | |
| 44 | Foster | 1.0 | 1.0 | 143.3 | 56.5 | 2.7 | 12.9 | 1.8 | |
| 81 | Ecuador 1 | 1.0 | 1.0 | 114.0 | 45.8 | 7.9 | 13.1 | 2.0 | |
| 82 | PK-73-86 | 1.0 | 1.0 | 126.3 | 56.0 | 2.8 | 12.1 | 2.3 | |
| 80 | HM-1 | 1.0 | 1.0 | 90.3 | 41.8 | 6.9 | 14.0 | 2.0 | |
| 83 | CEP 7717 | 1.0 | 1.0 | 156.3 | 49.0 | 3.3 | 11.3 | 2.3 | |
| 47 | PK-73-94 | 1.0 | 1.0 | 95.8 | 50.8 | 3.3 | 10.8 | 1.5 | |
| 89 | Williams 82 | 1.0 | 1.0 | 135.3 | 34.3 | 4.5 | 14.5 | 2.0 | |
| 69 | Essex | 1.0 | 1.0 | 125.0 | 40.8 | 2.9 | 15.7 | 3.5 | |
| 37 | G 2120 | 4.0 | 5.0 | 142.3 | 58.5 | 6.0 | 4.7 | 3.3 | |
| | Grand mean | 1.3 | 1.3 | 126.0 | 47.3 | 4.2 | 12.8 | 2.2 | |
| | Standard error of cultivar mean | 0.0 | 1.0 | 9.4 | 3.8 | 0.5 | 0.6 | 0.3 | |
| | Coefficient of variation (%) | 0.0 | 78.8 | 14.9 | 16.1 | 24.0 | 9.8 | 26.2 | |
| | 5% LSD Cultivar means (****=ns) | 0.0 | 0.0 | 26.7 | 10.9 | 1.4 | 1.8 | 0.8 | |

Table 67. Trial 712, 1982

Country: SUDAN

Latitude: 12°44'N

Zone: 4 Group: B

Region: AFRICA

Longitude: 34°07'E

Elevation (m): 435

Site: KENANA RESEARCH STATION, AGADI

Cooperator(s): GEORGE I. GHOBRIAL

Date planted: May 1982

Date harvested: October 1982

Soil type: 50% clay

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 75 | Braxton | 554.9 | 27.0 | 68.5 | 3.0 | 2.0 | | | 22.3 |
| 44 | Foster | 552.0 | 25.0 | 67.0 | 2.5 | 2.0 | | | 18.0 |
| 89 | Williams 82 | 545.9 | 25.0 | 67.0 | 2.0 | 2.3 | | | 23.2 |
| 69 | Essex | 529.3 | 27.0 | 68.3 | 3.0 | 2.3 | | | 18.4 |
| 13 | Bossier | 485.1 | 25.0 | 67.0 | 3.0 | 2.3 | | | 17.8 |
| 80 | HM-1 | 484.3 | 30.0 | 72.8 | 4.0 | 2.0 | | | 24.9 |
| 82 | PK-73-86 | 436.1 | 30.0 | 68.5 | 3.5 | 2.0 | | | 24.7 |
| 47 | PK-73-94 | 435.1 | 30.0 | 69.5 | 4.0 | 2.3 | | | 20.2 |
| 81 | Ecuador 1 | 412.0 | 35.3 | 83.5 | 2.0 | 2.0 | | | 32.2 |
| 9 | Jupiter | 409.9 | 44.0 | 88.0 | 3.0 | 2.3 | | | 37.9 |
| 19 | Davis | 392.4 | 30.0 | 68.5 | 2.5 | 2.0 | | | 21.5 |
| 83 | CEP 7717 | 391.8 | 34.8 | 70.5 | 3.5 | 2.0 | | | 27.7 |
| 77 | ICA L-124 | 373.0 | 35.0 | 82.0 | 3.0 | 2.0 | | | 31.8 |
| 43 | Alamo | 363.8 | 43.0 | 88.0 | 3.8 | 2.0 | | | 26.0 |
| 76 | SIATSA 194 | 343.4 | 38.8 | 86.5 | 2.5 | 2.3 | | | 36.1 |
| 37 | G 2120 | 255.1 | 47.0 | 81.5 | 3.5 | 2.0 | | | 34.9 |
| Grand mean | | 435.2 | 32.9 | 74.8 | 3.1 | 2.1 | | | 26.1 |
| Standard error of cultivar mean | | 28.9 | 0.7 | 0.9 | 0.4 | 0.2 | | | 0.7 |
| Coefficient of variation (%) | | 13.3 | 4.2 | 2.5 | 29.2 | 20.7 | | | 5.7 |
| 5% LSD Cultivar means (*****=ns) | | 82.2 | 2.0 | 2.7 | 1.3 | ***** | | | 2.1 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 75 | Braxton | 1.0 | | 163.5 | 10.8 | 7.6 | 10.9 | 1.3 | 96.0 |
| 44 | Foster | 1.0 | | 157.5 | 12.0 | 7.2 | 9.3 | 1.8 | 64.0 |
| 89 | Williams 82 | 1.0 | | 177.0 | 9.0 | 8.1 | 11.7 | 1.3 | 51.0 |
| 69 | Essex | 2.0 | | 161.5 | 12.5 | 7.1 | 9.0 | 1.3 | 72.0 |
| 13 | Bossier | 1.0 | | 137.0 | 13.8 | 6.4 | 9.3 | 1.0 | 58.0 |
| 80 | HM-1 | 1.0 | | 167.8 | 10.0 | 10.1 | 10.1 | 2.0 | 38.0 |
| 82 | PK-73-86 | 1.5 | | 170.8 | 11.8 | 10.5 | 8.0 | 1.5 | 58.0 |
| 47 | PK-73-94 | 1.0 | | 163.0 | 12.8 | 8.7 | 7.8 | 1.8 | 69.0 |
| 81 | Ecuador 1 | 1.0 | | 165.0 | 9.0 | 10.7 | 10.7 | 3.3 | 57.5 |
| 9 | Jupiter | 1.0 | | 138.8 | 12.8 | 11.5 | 9.9 | 3.8 | 46.0 |
| 19 | Davis | 1.5 | | 158.3 | 9.5 | 7.9 | 8.5 | 3.0 | 39.0 |
| 83 | CEP 7717 | 1.0 | | 165.0 | 11.3 | 10.2 | 6.6 | 3.5 | 91.0 |
| 77 | ICA L-124 | 1.0 | | 168.8 | 8.8 | 10.4 | 10.7 | 2.8 | 53.0 |
| 43 | Alamo | 1.0 | | 162.0 | 10.0 | 9.9 | 8.8 | 1.5 | 81.0 |
| 76 | SIATSA 194 | 1.0 | | 158.0 | 9.5 | 10.6 | 11.2 | 2.5 | 41.0 |
| 37 | G 2120 | 1.5 | | 170.0 | 11.8 | 11.4 | 4.8 | 1.0 | 78.0 |
| Grand mean | | 1.2 | | 161.5 | 10.9 | 9.3 | 9.2 | 2.1 | 62.0 |
| Standard error of cultivar mean | | 0.5 | | 5.9 | 0.8 | 0.5 | 0.2 | 0.3 | 7.1 |
| Coefficient of variation (%) | | 43.5 | | 7.4 | 14.0 | 10.0 | 4.9 | 24.8 | 22.7 |
| 5% LSD Cultivar means (*****=ns) | | ***** | | 16.9 | 2.2 | 1.3 | 0.6 | 0.7 | 20.1 |

Table 68. Trial 735, 1982

Country: SWAZILAND Latitude: 26°36'S Zone: 8 Group: B
 Region: AFRICA Longitude: 31°10'E Elevation (m): 800
 Site: MALKERNS RESEARCH STATION
 Cooperator(s): JOHN PALI SCHIKHULU, I. S. KUNENE, C. SEUBERT
 Date planted: December 12, 1982 Date harvested: March 3, 1983
 Soil type: Malkerns series, deep red loam
 Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
 Total moisture (mm): 569
 Substituted cultivar(s): Crawford

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 75 | Braxton | 2,697.2 | 47.0 | 120.0 | | 1.0 | | | 94.4 |
| 44 | Foster | 2,584.3 | 40.3 | 121.8 | | 2.5 | | | 89.0 |
| 44 | Foster | 2,526.8 | 39.8 | 122.5 | | 4.0 | | | 91.6 |
| 47 | PK-73-94 | 2,478.4 | 58.0 | 134.5 | | 2.8 | | | 91.8 |
| 82 | PK-73-86 | 2,257.1 | 55.5 | 127.0 | | 4.3 | | | 88.3 |
| 83 | CEP 7717 | 2,203.4 | 55.0 | 122.0 | | 3.3 | | | 98.2 |
| 19 | Davis | 2,076.7 | 54.0 | 133.0 | | 1.0 | | | 94.0 |
| 69 | Essex | 2,076.3 | 41.5 | 102.3 | | 2.8 | | | 73.1 |
| 89 | Williams 82 | 1,904.5 | 22.8 | 84.0 | | 4.0 | | | 69.7 |
| 81 | Ecuador 1 | 1,719.9 | 66.3 | 142.0 | | 1.8 | | | 115.1 |
| 35 | Crawford | 1,622.8 | 22.3 | 97.5 | | 4.3 | | | 78.7 |
| 9 | Jupiter | 1,449.5 | 90.0 | 155.0 | | 2.8 | | | 121.5 |
| 44 | Foster | 1,346.9 | 23.3 | 90.0 | | 4.3 | | | 86.1 |
| 37 | G 2120 | 1,303.6 | 76.3 | 149.0 | | 2.5 | | | 143.7 |
| 43 | Alamo | 1,216.9 | 79.3 | 155.0 | | 2.3 | | | 115.5 |
| 76 | SIATSA 194 | 1,135.2 | 74.5 | 151.8 | | 2.0 | | | 138.6 |
| Grand mean | | 1,912.5 | 52.8 | 125.5 | | 2.8 | | | 99.3 |
| Standard error of cultivar mean | | 157.3 | 5.3 | 4.2 | | 0.7 | | | 3.9 |
| Coefficient of variation (%) | | 16.4 | 19.9 | 6.7 | | 52.1 | | | 7.8 |
| 5% LSD Cultivar means (****=ns) | | 447.9 | 15.0 | 12.0 | | 2.1 | | | 11.0 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|--------------------|--------------------|------------------|------------|--------------|------------------|-----------------|----------------------|
| 75 | Braxton | 1.0 | 1.3 | 188.0 | 36.6 | 19.2 | 25.0 | 2.0 | 95.0 ⁽¹⁾ |
| 44 | Foster | 1.5 | 1.0 | 164.8 | 35.6 | 18.6 | 17.8 | 2.3 | 89.0 ⁽¹⁾ |
| 44 | Foster | 1.8 | 1.0 | 168.3 | 37.5 | 18.6 | 17.1 | 2.0 | 88.0 ⁽¹⁾ |
| 47 | PK-73-94 | 1.5 | 2.0 | 185.8 | 53.0 | 23.2 | 16.6 | 2.5 | 69.0 ⁽¹⁾ |
| 82 | PK-73-86 | 1.5 | 3.0 | 168.5 | 70.0 | 17.0 | 15.1 | 2.0 | 99.0 ⁽¹⁾ |
| 83 | CEP 7717 | 3.0 | 1.8 | 187.8 | 40.8 | 23.4 | 15.3 | 2.0 | 83.0 ⁽¹⁾ |
| 19 | Davis | 1.3 | 1.3 | 186.5 | 26.3 | 14.6 | 19.5 | 3.0 | 97.0 ⁽¹⁾ |
| 69 | Essex | 1.0 | 1.5 | 159.0 | 37.0 | 19.5 | 16.0 | 2.5 | 83.0 ⁽¹⁾ |
| 89 | Williams 82 | 1.0 ⁽³⁾ | 1.0 ⁽³⁾ | 186.3 | 40.2 | 11.2 | 14.0 | 2.0 | 86.0 ⁽¹⁾ |
| 81 | Ecuador 1 | 1.8 | 1.0 | 177.0 | 51.6 | 20.2 | 19.9 | 1.5 | 90.0 ⁽¹⁾ |
| 35 | Crawford | 1.0 | 1.3 | 142.5 | 27.8 | 11.7 | 14.3 | 2.0 | 93.0 ⁽¹⁾ |
| 9 | Jupiter | 3.3 | 1.3 | 124.5 | 28.7 | 26.1 | 16.3 | 2.0 | 73.0 ⁽¹⁾ |
| 44 | Foster | 1.0 | 2.0 | 164.5 | 18.5 | 11.4 | 16.2 | 2.3 | 89.0 ⁽¹⁾ |
| 37 | G 2120 | 2.8 | 1.7 ⁽³⁾ | 180.0 | 88.0 | 16.7 | 9.5 | 2.0 | 100.0 ⁽¹⁾ |
| 43 | Alamo | 4.5 | 1.3 | 154.8 | 40.1 | 23.8 | 17.0 | 2.0 | 71.0 ⁽¹⁾ |
| 76 | SIATSA 194 | 1.8 | 2.0 | 134.5 | 43.3 | 21.4 | 18.9 | 2.5 | 99.0 ⁽¹⁾ |
| Grand mean | | 1.9 | 1.5 | 167.0 | 42.2 | 18.5 | 16.8 | 2.2 | 87.8 |
| Standard error of cultivar mean | | 1.2 | 0.7 | 10.0 | 5.5 | 1.9 | 1.1 | 0.2 | 9.9 |
| Coefficient of variation (%) | | 61.8 | 44.3 | 12.0 | 25.9 | 20.5 | 12.9 | 18.0 | 11.3 |
| 5% LSD Cultivar means (****=ns) | | **** | **** | 28.6 | 15.5 | 5.4 | 3.1 | 0.6 | **** |

Table 69. Trial 842, 1982

Country: SWAZILAND Latitude: 26°15'S Zone: 9 Group: C
 Region: AFRICA Longitude: 31°00'E Elevation (m): 1,500
 Site: MANGCONGCO
 Cooperator(s): JOHN PALI SCHIKHULU, I. S. KUNENE, C. SEUBERT
 Date planted: November 18, 1982 Date harvested: March 24, 1983
 Soil type: pH 4.45, Nduma series, deep red/yellow loam
 Fertilizer used (kg/ha): N 25.0, P 25.0, K 25.0
 Total moisture (mm): 623

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 69 | Essex | 2,525.5 | 71.0 | 115.0 | | 3.0 | | | 60.4 |
| 35 | Crawford | 1,362.4 | 43.0 | 102.5 | | 2.5 | | | 48.8 |
| 36 | Evans | 1,361.9 | 31.8 | 87.0 | | 3.5 | | | 33.8 |
| 72 | Amcor | 1,354.4 | 37.8 | 94.5 | | 3.5 | | | 38.5 |
| 84 | Sparks | 1,316.1 | 40.8 | 104.5 | | 2.3 | | | 47.7 |
| 74 | Pella | 1,303.2 | 40.0 | 97.8 | | 3.5 | | | 44.1 |
| 85 | Pixie | 1,293.2 | 42.3 | 96.8 | | 2.0 | | | 33.1 |
| 86 | Fayette | 1,286.5 | 41.5 | 96.0 | | 2.5 | | | 44.4 |
| 89 | Williams 82 | 1,273.2 | 43.0 | 102.3 | | 3.8 | | | 42.9 |
| 73 | Century | 1,273.2 | 39.0 | 99.0 | | 1.3 | | | 43.9 |
| 60 | Kent | 1,198.6 | 44.3 | 111.0 | | 1.8 | | | 44.9 |
| 88 | Lakota | 1,189.0 | 37.8 | 87.0 | | 2.8 | | | 42.2 |
| 57 | Corsoy 79 | 1,120.2 | 38.0 | 98.0 | | 3.8 | | | 37.7 |
| 71 | Hodgson 78 | 1,091.9 | 33.5 | 87.0 | | 4.3 | | | 34.9 |
| 87 | Clay | 1,014.4 | 31.0 | 91.0 | | 5.0 | | | 27.8 |
| 70 | Hardin | 955.6 | 34.3 | 96.3 | | 4.8 | | | 31.7 |
| Grand mean | | 1,307.5 | 40.6 | 97.8 | | 3.1 | | | 41.0 |
| Standard error of cultivar mean | | 80.2 | 1.5 | 2.0 | | 0.6 | | | 2.2 |
| Coefficient of variation (%) | | 12.3 | 7.2 | 4.1 | | 40.0 | | | 10.8 |
| 5% LSD Cultivar means (****=ns) | | 228.4 | 4.2 | 5.6 | | 1.8 | | | 6.3 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|--------------------|------------------|------------|--------------|------------------|-----------------|----------------------|
| 69 | Essex | 1.0 | 1.8 | 134.3 | 15.7 | 17.8 | 16.0 | 1.5 | 87.0 ⁽¹⁾ |
| 35 | Crawford | 1.0 | 1.5 | 128.5 | 10.6 | 12.8 | 14.7 | 3.3 | 98.0 ⁽¹⁾ |
| 36 | Evans | 1.0 | 1.0 | 144.8 | 12.2 | 9.0 | 12.7 | 2.0 | 90.0 ⁽¹⁾ |
| 72 | Amcor | 1.0 | 1.7 ⁽³⁾ | 140.8 | 12.4 | 7.4 | 14.5 | 1.8 | 99.0 ⁽¹⁾ |
| 84 | Sparks | 1.0 | 2.0 | 149.5 | 8.7 | 10.5 | 14.8 | 4.0 | 28.0 ⁽¹⁾ |
| 74 | Pella | 1.0 | 2.0 | 135.5 | 9.9 | 10.1 | 14.7 | 2.5 | 98.0 ⁽¹⁾ |
| 85 | Pixie | 1.0 | 2.3 | 137.0 | 11.1 | 8.1 | 13.8 | 3.0 | 90.0 ⁽¹⁾ |
| 86 | Fayette | 1.0 | 1.8 | 136.0 | 9.4 | 10.7 | 14.4 | 1.8 | 50.0 ⁽¹⁾ |
| 89 | Williams 82 | 1.0 | 1.3 ⁽³⁾ | 142.0 | 8.0 | 10.4 | 14.7 | 2.5 | 48.0 ⁽¹⁾ |
| 73 | Century | 1.0 | 1.8 | 144.8 | 9.4 | 10.7 | 14.4 | 2.5 | 98.0 ⁽¹⁾ |
| 60 | Kent | 1.0 | 1.8 | 135.8 | 8.9 | 11.2 | 14.9 | 2.8 | 66.0 ⁽¹⁾ |
| 88 | Lakota | 1.0 | 2.0 ⁽³⁾ | 145.8 | 10.3 | 9.1 | 13.4 | 2.8 | 99.0 ⁽¹⁾ |
| 57 | Corsoy 79 | 1.0 | 1.8 | 137.8 | 11.0 | 9.2 | 14.2 | 2.5 | 98.0 ⁽¹⁾ |
| 71 | Hodgson 78 | 1.0 | 1.0 ⁽³⁾ | 137.3 | 11.2 | 8.7 | 14.0 | 1.8 | 100.0 ⁽¹⁾ |
| 87 | Clay | 1.0 | 1.8 | 151.8 | 13.7 | 6.8 | 14.3 | 1.8 | 43.0 ⁽¹⁾ |
| 70 | Hardin | 1.0 | 1.0 | 140.5 | 10.2 | 7.9 | 14.3 | 2.8 | 86.0 ⁽¹⁾ |
| Grand mean | | 1.0 | 1.7 | 140.1 | 10.8 | 10.0 | 14.3 | 2.4 | 79.9 |
| Standard error of cultivar mean | | 0.0 | 0.8 | 7.7 | 1.5 | 1.2 | 0.3 | 0.4 | 24.4 |
| Coefficient of variation (%) | | 0.0 | 47.1 | 10.9 | 28.4 | 24.1 | 4.4 | 31.3 | 30.5 |
| 5% LSD Cultivar means (****=ns) | | ***** | ***** | ***** | ***** | 3.4 | 0.9 | 1.1 | ***** |

Table 70. Trial 556, 1982

Country: THAILAND Latitude: 14°47'N Zone: 4 Group: A
 Region: ASIA Longitude: 100°50'E Elevation (m): 95
 Site: PHRAPUTTHABAT FIELD CROP EXP. STATION, LOPBURI
 Cooperator(s): KHORNTHONG PUANGPRAKONE, AMNUAY TONGDEE
 Date planted: August 4, 1982 Date harvested: October 1982
 Soil type: reddish-brown laterite, Pakchong series
 Fertilizer used (kg/ha): N 18.75, P 20.0, K 31.0
 Substituted cultivar(s): SJ-5

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 19 | Davis | 2,713.0 | 29.0 | 85.0 | | | | | 46.3 |
| 89 | Williams 82 | 2,548.4 | 23.0 | 78.0 | | | | | 67.1 |
| 77 | ICA L-124 | 2,526.8 | 31.5 | 85.8 | | | | | 68.2 |
| 46 | Ecuador 2 | 2,423.8 | 34.0 | 91.0 | | | | | 76.9 |
| 216 | SJ-5 | 2,307.1 | 58.5 | 59.3 | | | | | 91.6 |
| 76 | SIATSA 194 | 2,241.7 | 35.0 | 87.0 | | | | | 113.7 |
| 13 | Bossier | 2,238.8 | 23.5 | 85.0 | | | | | 37.6 |
| 2 | UFV-1 | 2,231.3 | 34.0 | 89.5 | | | | | 60.3 |
| 43 | Alamo | 1,995.0 | 41.0 | 91.0 | | | | | 61.5 |
| 40 | IGH 24 | 1,928.3 | 43.3 | 93.8 | | | | | 94.4 (3) |
| 78 | ISRA/IRAT 44A/73 | 1,911.2 | 38.0 | 88.8 | | | | | 75.0 |
| 9 | Jupiter | 1,845.0 | 42.3 | 92.5 | | | | | 85.6 |
| 39 | IGH 23 | 1,811.6 | 41.3 | 91.0 | | | | | 94.9 |
| 45 | ICA L-109 | 1,557.4 | 41.0 | 94.0 | | | | | 88.0 |
| 79 | 71-38 | 1,197.3 | 36.0 | 91.0 | | | | | 59.1 |
| 64 | ICA L-125 | 688.1 | 41.3 | 95.0 | | | | | 121.8 |
| Grand mean | | 2,010.3 | 37.0 | 87.3 | | | | | 77.4 |
| Standard error of cultivar mean | | 106.7 | 6.1 | 6.3 | | | | | 23.0 |
| Coefficient of variation (%) | | 10.6 | 33.1 | 14.3 | | | | | 29.7 |
| 5% LSD Cultivar means (****=ns) | | 304.1 | 17.4 | 17.8 | | | | | **** |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 19 | Davis | 1.0 | 1.0 | 193.0 | 28.0 | | 15.9 | | |
| 89 | Williams 82 | 1.5 | 1.0 | 184.3 | 24.3 | | 16.7 | | |
| 77 | ICA L-124 | 1.8 | 1.0 | 179.0 | 33.2 | | 16.7 | | |
| 46 | Ecuador 2 | 1.0 | 1.0 | 182.8 | 31.2 | | 11.8 | | |
| 216 | SJ-5 | 1.5 | 1.0 | 161.0 | 38.3 | | 13.1 | | |
| 76 | SIATSA 194 | 2.5 | 1.0 | 186.5 | 32.8 | | 16.0 | | |
| 13 | Bossier | 1.0 | 1.0 | 182.3 | 25.3 | | 16.6 | | |
| 2 | UFV-1 | 1.0 | 1.0 | 187.0 | 28.6 | | 13.7 | | |
| 43 | Alamo | 1.8 | 1.0 | 187.8 | 29.3 | | 12.2 | | |
| 40 | IGH 24 | 1.8 | 1.0 | 186.3 | 46.9 | | 11.1 | | |
| 78 | ISRA/IRAT 44A/73 | 3.0 | 1.0 | 179.8 | 41.7 | | 12.8 | | |
| 9 | Jupiter | 1.3 | 1.0 | 178.5 | 36.3 | | 14.3 | | |
| 39 | IGH 23 | 2.0 | 1.0 | 181.5 | 35.4 | | 12.3 | | |
| 45 | ICA L-109 | 2.8 | 1.0 | 186.5 | 41.4 | | 8.8 | | |
| 79 | 71-38 | 1.5 | 1.0 | 174.3 | 43.2 | | 11.9 | | |
| 64 | ICA L-125 | 3.0 | 1.0 | 186.3 | 38.4 | | 15.1 | | |
| Grand mean | | 1.8 | 1.0 | 182.3 | 34.4 | | 13.7 | | |
| Standard error of cultivar mean | | 0.3 | 0.0 | 3.7 | 7.5 | | 1.3 | | |
| Coefficient of variation (%) | | 29.9 | 0.0 | 4.1 | 21.7 | | 18.3 | | |
| 5% LSD Cultivar means (****=ns) | | 0.8 | **** | 10.6 | **** | | 3.6 | | |

Table 71. Trial 567, 1982

| | | | | | | | | | | |
|---|------------------|---------------|--------------------------------|------------------|-----------------|--------------------|------------------|----------------------|----------------|--|
| Country: THAILAND | | | Latitude: 14°30'N | | | Zone: 4 | | | Group: A | |
| Region: ASIA | | | Longitude: 101°30'E | | | Elevation (m): 300 | | | | |
| Site: SUWAN FARM, PAKCHONG, NAKHONRACHSIMA | | | | | | | | | | |
| Cooperator(s): PEERASAK SRINIVES, ATTAPOL SUWANWONGSE | | | | | | | | | | |
| Date planted: November 17, 1982 | | | Date harvested: March 12, 1983 | | | | | | | |
| Soil type: pH 5.6, Loei series | | | | | | | | | | |
| Total moisture (mm): 503 | | | | | | | | | | |
| Number of irrigations: 11 (440 mm) | | | | | | | | | | |
| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) | |
| 76 | SIATSA 194 | 2,279.0 | 42.3 | 105.3 | 3.5 | 2.5 | 100.0 | 100.0 | 60.9 | |
| 45 | ICA L-109 | 2,260.5 | 44.5 | 110.8 | 4.0 | 2.3 | 93.8 | 96.3 | 48.6 | |
| 46 | Ecuador 2 | 2,216.0 | 41.8 | 101.0 | 4.0 | 4.0 | 92.5 | 98.8 | 42.6 | |
| 43 | Alamo | 2,214.0 | 48.0 | 110.3 | 4.0 | 3.3 | 95.0 | 97.5 | 42.1 | |
| 64 | ICA L-125 | 2,151.5 | 35.3 | 98.3 | 3.0 | 3.0 | 100.0 | 100.0 | 45.0 | |
| 78 | ISRA/IRAT 44A/73 | 2,145.0 | 43.3 | 97.0 | 4.0 | 3.5 | 93.8 | 96.3 | 41.8 | |
| 40 | IGH 24 | 1,946.5 | 46.8 | 119.3 | 4.0 | 2.8 | 95.0 | 97.5 | 62.0 | |
| 19 | Davis | 1,893.5 | 33.3 | 95.3 | 4.0 | 3.0 | 97.5 | 100.0 | 26.4 | |
| 9 | Jupiter | 1,887.0 | 47.8 | 109.3 | 4.0 | 2.5 | 92.5 | 97.5 | 55.3 | |
| 2 | UFV-1 | 1,685.0 | 35.0 | 96.8 | 3.5 | 4.0 | 97.5 | 100.0 ⁽³⁾ | 25.7 | |
| 13 | Bossier | 1,670.5 | 26.3 | 89.8 | 3.0 | 2.3 | 100.0 | 100.0 | 20.7 | |
| 10 | Improved Pelican | 1,644.0 | 36.0 | 97.3 | 4.0 | 4.0 | 97.5 | 95.0 | 46.1 | |
| 79 | 71-38 | 1,641.0 | 33.0 | 95.5 | 4.0 | 3.5 | 92.5 | 87.5 | 20.9 | |
| 89 | Williams 82 | 1,578.5 | 27.3 | 86.5 | 2.5 | 2.5 | 100.0 | 100.0 | 32.1 | |
| 77 | ICA L-124 | 1,555.5 | 39.8 | 100.5 | 3.5 | 2.3 | 96.3 | 100.0 | 38.5 | |
| 39 | IGH 23 | 1,318.0 | 48.8 | 119.5 | 4.0 | 3.0 | 97.5 | 93.8 | 57.3 | |
| Grand mean | | 1,880.3 | 39.3 | 102.0 | 3.7 | 3.0 | 96.3 | 97.5 | 41.6 | |
| Standard error of cultivar mean | | 230.9 | 0.8 | 1.3 | 0.3 | 0.5 | 2.2 | 4.7 | 1.6 | |
| Coefficient of variation (%) | | 24.6 | 4.2 | 2.6 | 16.0 | 31.8 | 4.5 | 4.8 | 7.9 | |
| 5% LSD Cultivar means (*****=ns) | | ***** | 2.3 | 3.7 | 0.8 | ***** | ***** | ***** | 4.7 | |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. | |
| 76 | SIATSA 194 | 2.8 | 1.0 | 147.0 | 43.7 | 12.2 | 20.2 | 2.0 | 88.0 | |
| 45 | ICA L-109 | 1.5 | 1.0 | 170.5 | 24.5 | 9.7 | 14.8 | 2.5 | 77.3 | |
| 46 | Ecuador 2 | 1.5 | 1.0 | 146.8 | 38.2 | 10.1 | 19.3 | 1.3 | 75.0 | |
| 43 | Alamo | 3.8 | 1.0 | 146.3 | 28.6 | 7.7 | 17.6 | 2.5 | 87.3 | |
| 64 | ICA L-125 | 1.5 | 1.0 | 176.5 | 40.4 | 7.4 | 14.3 | 1.0 | 88.3 | |
| 78 | ISRA/IRAT 44A/73 | 3.3 | 1.0 | 171.8 | 42.7 | 7.0 | 14.3 | 1.5 | 79.3 | |
| 40 | IGH 24 | 3.3 | 1.0 | 148.8 | 38.9 | 14.0 | 19.9 | 2.8 | 77.8 | |
| 19 | Davis | 1.0 | 1.0 | 196.3 | 21.3 | 4.6 | 21.9 | 1.0 | 81.3 | |
| 9 | Jupiter | 4.3 | 1.0 | 140.3 | 30.3 | 12.7 | 20.1 | 3.3 | 79.8 | |
| 2 | UFV-1 | 1.0 | 1.0 | 160.0 | 19.0 | 3.7 | 19.0 | 1.0 | 80.0 | |
| 13 | Bossier | 1.0 | 1.0 | 140.3 | 18.1 | 2.7 | 18.8 | 1.8 | 70.0 | |
| 10 | Improved Pelican | 2.5 | 1.0 | 155.0 | 41.2 | 8.2 | 16.2 | 2.0 | 82.5 | |
| 79 | 71-38 | 1.0 | 1.0 | 160.0 | 32.5 | 4.2 | 17.9 | 2.3 | 83.5 | |
| 89 | Williams 82 | 1.3 | 1.0 | 152.8 | 24.3 | 4.8 | 19.3 | 1.3 | 86.3 | |
| 77 | ICA L-124 | 2.0 | 1.0 | 169.5 | 26.6 | 8.6 | 26.7 | 2.0 | 72.5 | |
| 39 | IGH 23 | 4.3 | 1.0 | 135.3 | 33.6 | 12.3 | 22.4 | 3.0 | 63.8 | |
| Grand mean | | 2.2 | 1.0 | 157.3 | 31.5 | 8.1 | 18.9 | 1.9 | 79.5 | |
| Standard error of cultivar mean | | 0.3 | 0.0 | 9.4 | 2.5 | 1.1 | 1.1 | 0.3 | 4.0 | |
| Coefficient of variation (%) | | 26.7 | 0.0 | 12.0 | 16.0 | 27.3 | 12.0 | 29.2 | 10.0 | |
| 5% LSD Cultivar means (*****=ns) | | 0.9 | ***** | 26.8 | 7.2 | 3.2 | 3.2 | 0.8 | 11.3 | |

Table 72. Trial 806, 1982

Country: TURKEY Latitude: 41°11'N Zone: 13 Group: C
 Region: MIDDLE EAST Longitude: 36°45'E Elevation (m): 35
 Site: CARSAMBA
 Cooperator(s): YASAR BILGIN, CEVDET NALCI, T. ARKONT
 Date planted: April 21, 1982 Date harvested: October 10, 1982
 Soil type: pH 5.8
 Fertilizer used (kg/ha): N 25.0, P 26.4, K 24.9
 Total moisture (mm): 420

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------------|---------------|----------------|
| 35 | Crawford | 3,150.6 | 66.0 | 155.5 | 1.5 | 1.3 | 71.3 | 76.3 | 120.0 |
| 85 | Pixie | 3,004.8 | 58.5 | 162.3 | 2.3 | 1.8 | 61.3 | 63.8 | 80.0 |
| 84 | Sparks | 2,948.5 | 52.5 | 156.5 | 2.3 | 1.8 | 60.0 | 63.8 | 113.3 |
| 74 | Pella | 2,915.2 | 53.5 | 153.8 | 2.3 | 2.0 | 70.0 ⁽³⁾ | 63.8 | 91.0 |
| 86 | Fayette | 2,913.1 | 52.8 | 155.0 | 1.3 | 1.8 | 67.5 | 70.0 | 106.3 |
| 89 | Williams 82 | 2,898.5 | 53.0 | 155.5 | 1.8 | 2.0 | 55.0 | 55.0 | 98.3 |
| 60 | Kent | 2,823.5 | 64.0 | 164.8 | 2.0 | 1.5 | 56.3 | 57.5 | 106.3 |
| 21 | Calland | 2,744.3 | 56.0 | 162.0 | 2.5 | 1.8 | 61.3 | 71.3 | 95.8 |
| 72 | Amcor | 2,673.5 | 56.0 | 147.8 | 2.5 | 2.5 | 57.5 | 57.5 | 80.0 |
| 57 | Corsoy 79 | 2,579.7 | 51.5 | 144.0 | 2.5 | 1.8 | 53.8 | 60.0 | 77.5 |
| 71 | Hodgson 78 | 2,338.0 | 48.5 | 144.5 | 2.8 | 2.5 | 50.0 | 56.3 | 66.3 |
| 73 | Century | 2,304.6 | 51.5 | 154.0 | 2.8 | 2.8 | 57.5 | 65.0 | 86.3 |
| 70 | Hardin | 2,219.2 | 52.8 | 145.0 | 3.0 | 2.5 | 50.0 | 57.5 | 75.3 |
| 88 | Lakota | 2,202.5 | 50.5 | 144.5 | 3.0 | 2.5 | 53.8 | 67.5 | 87.0 |
| 36 | Evans | 1,704.5 | 43.8 | 145.0 | 4.0 | 4.0 | 33.3 ⁽³⁾ | 46.3 | 48.8 |
| 87 | Clay | 1,456.5 | 46.5 | 145.3 | 4.0 | 3.8 | 30.0 ⁽³⁾ | 36.3 | 47.5 |
| Grand mean | | 2,554.8 | 53.6 | 152.2 | 2.5 | 2.3 | 56.1 | 60.5 | 86.2 |
| Standard error of cultivar mean | | 299.0 | 1.0 | 2.1 | 0.6 | 0.4 | 14.9 | 7.2 | 4.4 |
| Coefficient of variation (%) | | 23.4 | 3.7 | 2.7 | 43.7 | 38.6 | 26.5 | 23.9 | 10.1 |
| 5% LSD Cultivar means (****=ns) | | 851.6 | 2.8 | 5.9 | 1.6 | 1.2 | **** | 20.6 | 12.4 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 35 | Crawford | 1.3 | 1.0 | 210.3 | | | 19.5 | 5.0 | 74.8 |
| 85 | Pixie | 1.3 | 1.0 | 185.0 | | | 18.1 | 4.0 | 72.3 |
| 84 | Sparks | 1.3 | 1.0 | 168.5 | | | 22.1 | 4.0 | 52.3 |
| 74 | Pella | 1.0 | 1.0 | 214.5 | | | 21.4 | 5.0 | 45.0 |
| 86 | Fayette | 1.0 | 1.0 | 168.3 | | | 19.8 | 4.8 | 78.8 |
| 89 | Williams 82 | 1.0 | 1.0 | 172.5 | | | 19.7 | 5.0 | 67.0 |
| 60 | Kent | 1.5 | 1.0 | 228.0 | | | 21.8 | 4.8 | 66.8 |
| 21 | Calland | 1.0 | 1.0 | 148.8 | | | 22.6 | 4.0 | 70.8 |
| 72 | Amcor | 1.0 | 1.0 | 164.3 | | | 19.0 | 4.8 | 71.5 |
| 57 | Corsoy 79 | 1.0 | 1.0 | 170.0 | | | 17.4 | 4.0 | 51.3 |
| 71 | Hodgson 78 | 1.0 | 1.0 | 166.5 | | | 18.1 | 4.3 | 64.0 |
| 73 | Century | 1.0 | 1.0 | 196.5 | | | 20.4 | 4.3 | 70.5 |
| 70 | Hardin | 1.0 | 1.0 | 165.5 | | | 16.9 | 4.0 | 48.3 |
| 88 | Lakota | 1.0 | 1.0 | 170.0 | | | 16.3 | 4.0 | 26.0 |
| 36 | Evans | 1.0 | 1.3 | 182.8 | | | 16.0 | 3.5 | 27.3 |
| 87 | Clay | 1.0 | 1.0 | 196.8 | | | 17.0 | 4.0 | 34.5 |
| Grand mean | | 1.1 | 1.0 | 181.8 | | | 19.1 | 4.3 | 57.6 |
| Standard error of cultivar mean | | 0.2 | 0.1 | 19.9 | | | 0.5 | 0.2 | 6.5 |
| Coefficient of variation (%) | | 31.2 | 12.3 | 21.9 | | | 4.7 | 7.5 | 22.5 |
| 5% LSD Cultivar means (****=ns) | | **** | **** | **** | | | 1.3 | 0.5 | 18.4 |

Table 73. Trial 807, 1982

Country: TURKEY Latitude: 30°25'N Zone: 7 Group: C
 Region: MIDDLE EAST Longitude: 40°47'E Elevation (m): 30
 Site: ADAPAZARI
 Cooperator(s): YASAR BILGIN, CEVDET NALCI, T. ARKONT
 Date planted: April 12, 1982 Date harvested: September 6, 1982
 Fertilizer used (kg/ha): N 32.0, P 17.6, K 83.0
 Total moisture (mm): 262

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|--------------------|---------------|---------------------|----------------------|
| 86 | Fayette | 6,063.7 | 58.3 | 157.0 | 2.5 | 2.3 | 51.3 | 51.3 | 121.3 |
| 69 | Essex | 6,001.2 | 100.0 | 191.0 | 3.0 | 1.0 ⁽³⁾ | 35.0 | 61.7 ⁽³⁾ | 113.3 ⁽³⁾ |
| 35 | Crawford | 5,901.2 | 63.0 | 157.0 | 2.5 | 1.5 | 47.5 | 62.5 | 133.8 |
| 84 | Sparks | 5,747.0 | 54.5 | 157.0 | 2.3 | 1.3 | 38.8 | 62.5 | 129.5 |
| 89 | Williams 82 | 5,663.6 | 58.8 | 157.0 | 2.3 | 1.8 | 48.8 | 57.5 | 117.8 |
| 60 | Kent | 5,647.0 | 61.8 | 157.0 | 2.8 | 3.0 | 43.8 | 41.3 | 113.8 |
| 74 | Pella | 5,588.6 | 53.5 | 157.0 | 3.0 | 1.3 | 41.3 | 73.8 | 116.3 |
| 73 | Century | 5,246.9 | 53.8 | 157.0 | 3.0 | 2.8 | 40.0 | 48.8 | 105.0 |
| 85 | Pixie | 5,238.5 | 60.5 | 157.0 | 2.3 | 1.8 | 50.0 | 61.3 | 77.5 |
| 72 | Amcor | 4,963.5 | 55.0 | 144.0 | 2.0 | 1.0 | 43.8 | 61.3 | 122.5 |
| 57 | Corsoy 79 | 4,834.3 | 55.0 | 137.5 | 2.5 | 2.5 | 48.8 | 40.0 | 101.3 |
| 88 | Lakota | 4,071.6 | 55.0 | 131.0 | 2.3 | 1.3 | 55.0 | 53.8 | 110.0 |
| 70 | Hardin | 3,984.1 | 53.8 | 131.0 | 3.0 | 2.3 | 37.5 | 53.8 | 86.3 |
| 71 | Hodgson 78 | 3,846.6 | 52.5 | 131.0 | 1.8 | 2.0 | 48.8 | 52.5 | 93.8 |
| 36 | Evans | 3,813.3 | 50.0 | 131.0 | 2.8 | 2.8 | 43.8 | 35.0 | 73.8 |
| 87 | Clay | 2,738.0 | 50.0 | 131.0 | 2.8 | 2.5 | 46.3 | 40.0 | 65.0 |
| Grand mean | | 4,959.3 | 58.5 | 149.0 | 2.5 | 1.9 | 45.0 | 53.4 | 104.9 |
| Standard error of cultivar mean | | 291.4 | 1.0 | 2.4 | 0.4 | 1.1 | 6.2 | 17.2 | 21.8 |
| Coefficient of variation (%) | | 11.8 | 3.3 | 3.3 | 29.7 | 57.1 | 27.7 | 32.1 | 20.7 |
| 5% LSD Cultivar means (*****=ns) | | 830.0 | 2.7 | 6.9 | ***** | ***** | ***** | ***** | ***** |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|--------------------|--------------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 86 | Fayette | 1.5 | 1.0 | 219.5 | 30.0 | | 21.2 | 4.8 | 95.3 |
| 69 | Essex | 1.0 | 1.0 | 277.0 | 36.3 | | 17.5 | 5.0 | 95.3 |
| 35 | Crawford | 2.0 | 1.0 | 194.8 | 34.5 | | 20.1 | 5.0 | 96.3 |
| 84 | Sparks | 3.3 | 1.0 | 212.5 | 32.8 | | 21.4 | 5.0 | 96.5 |
| 89 | Williams 82 | 1.8 | 1.0 | 228.3 | 31.0 | | 21.1 | 5.0 | 95.8 |
| 60 | Kent | 1.0 | 1.0 | 215.0 | 36.0 | | 22.1 | 4.8 | 97.3 |
| 74 | Pella | 1.3 | 1.0 | 200.8 | 33.8 | | 23.9 | 5.0 | 93.3 |
| 73 | Century | 2.0 | 1.0 | 206.8 | 35.0 | | 20.3 | 4.0 | 95.0 |
| 85 | Pixie | 1.0 | 1.0 | 207.0 | 35.8 | | 20.2 | 5.0 | 95.0 |
| 72 | Amcor | 1.3 ⁽³⁾ | 1.0 ⁽³⁾ | 243.8 | 37.8 | | 18.4 | 4.8 | 92.3 |
| 57 | Corsoy 79 | 1.0 | 1.0 | 208.3 | 62.3 | | 17.6 | 5.0 | 88.5 |
| 88 | Lakota | 1.0 | 1.0 | 232.8 | 56.8 | | 15.3 | 4.0 | 86.5 |
| 70 | Hardin | 1.0 | 1.0 | 269.5 | 37.8 | | 16.5 | 4.8 | 93.8 |
| 71 | Hodgson 78 | 1.0 | 1.0 | 270.3 | 34.8 | | 17.7 | 5.0 | 93.0 |
| 36 | Evans | 1.0 | 1.0 | 274.0 | 34.3 | | 16.9 | 5.0 | 80.5 |
| 87 | Clay | 1.0 | 1.0 | 247.3 | 30.3 | | 15.8 | 4.0 | 78.5 |
| Grand mean | | 1.4 | 1.0 | 231.7 | 37.4 | | 19.1 | 4.8 | 92.0 |
| Standard error of cultivar mean | | 0.9 | 0.0 | 19.3 | 4.5 | | 0.5 | 0.1 | 2.6 |
| Coefficient of variation (%) | | 65.6 | 0.0 | 16.7 | 23.9 | | 5.3 | 5.1 | 5.6 |
| 5% LSD Cultivar means (*****=ns) | | ***** | 0.0 | 55.0 | 12.7 | | 1.4 | 0.3 | 7.3 |

Table 74. Trial 808, 1982

Country: TURKEY Latitude: 39°57'N Zone: 11 Group: C
 Region: MIDDLE EAST Longitude: 34°41'E Elevation (m): 800
 Site: ETIMESGUT
 Cooperator(s): YASAR BILGIN, CEVDET NALCI, T. ARKONT
 Date planted: May 7, 1982 Date harvested: September 20, 1982
 Soil type: pH 8.4
 Fertilizer used (kg/ha): N 140.0, P 50.6, K 75.5
 Total moisture (mm): 107

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------------|---------------------|----------------|
| 69 | Essex | | 98.5 | 163.0 | 5.0 | 4.8 | | 15.0 ⁽¹⁾ | 69.5 |
| 73 | Century | 3,075.6 | 76.5 | 151.0 | 3.3 | 3.8 | 45.0 | 50.0 | 49.8 |
| 86 | Fayette | 2,654.7 | 91.0 | 151.0 | 3.3 | 3.8 | 42.5 | 40.0 | 67.0 |
| 85 | Pixie | 2,563.0 | 91.0 | 151.0 | 3.5 | 3.5 | 45.0 | 47.5 | 34.3 |
| 72 | Amcor | 2,496.3 | 80.0 | 151.0 | 3.8 | 4.0 | 41.7 ⁽³⁾ | 42.5 | 61.3 |
| 84 | Sparks | 2,433.8 | 91.0 | 151.0 | 3.5 | 3.5 | 40.0 | 38.8 | 65.8 |
| 89 | Williams 82 | 2,413.0 | 84.8 | 151.0 | 3.8 | 4.0 | 41.3 | 48.8 | 66.3 |
| 57 | Corsoy 79 | 2,383.8 | 82.0 | 154.0 | 3.8 | 3.8 | 33.8 | 42.5 | 52.3 |
| 60 | Kent | 2,079.2 | 82.0 | 157.0 | 4.0 | 4.0 | 45.0 ⁽³⁾ | 42.5 | 63.8 |
| 74 | Pella | 1,642.0 | 78.0 | 157.0 | 4.3 | 4.3 | 40.0 ⁽²⁾ | 36.7 ⁽³⁾ | 46.5 |
| 71 | Hodgson 78 | 1,625.3 | 74.0 | 153.8 | 4.8 | 4.0 | 30.0 ⁽¹⁾ | 33.8 | 50.3 |
| 87 | Clay | 1,500.3 | 74.0 | 153.8 | 4.5 | 4.0 | 27.5 ⁽²⁾ | 28.8 | 44.0 |
| 36 | Evans | 1,479.5 | 74.0 | 153.8 | 4.8 | 4.0 | 30.0 ⁽¹⁾ | 30.0 | 43.3 |
| 70 | Hardin | 1,473.2 | 79.0 | 153.8 | 4.8 | 4.0 | 30.0 ⁽¹⁾ | 31.3 | 47.5 |
| 88 | Lakota | 1,462.8 | 76.0 | 153.8 | 4.8 | 4.0 | 40.0 ⁽¹⁾ | 37.5 | 54.5 |
| 35 | Crawford | 1,391.9 | 99.3 | 163.0 | 4.8 | 4.3 | 20.0 ⁽¹⁾ | 25.0 ⁽³⁾ | 70.8 |
| Grand mean | | 2,045.0 | 83.2 | 154.3 | 4.1 | 4.0 | 39.4 | 38.2 | 55.4 |
| Standard error of cultivar mean | | 219.6 | 2.2 | 4.8 | 0.3 | 0.2 | 12.7 | 11.3 | 3.2 |
| Coefficient of variation (%) | | 21.5 | 5.3 | 6.2 | 13.0 | 8.8 | 32.4 | 29.5 | 11.5 |
| 5% LSD Cultivar means (*****=ns) | | 626.9 | 6.2 | ***** | 0.8 | 0.5 | ***** | ***** | 9.1 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|--------------------|--------------------|------------------|------------|--------------|---------------------|-----------------|---------------|
| 69 | Essex | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 103.0 | 63.0 | | 8.6 ⁽²⁾ | 1.5 | |
| 73 | Century | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 72.8 | 28.3 | | 14.3 | 4.3 | |
| 86 | Fayette | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 83.0 | 33.3 | | 12.8 | 4.5 | |
| 85 | Pixie | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 81.3 | 28.8 | | 13.7 | 3.8 | |
| 72 | Amcor | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 75.3 | 22.0 | | 13.2 | 5.0 | |
| 84 | Sparks | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 69.8 | 28.3 | | 14.3 | 4.8 | |
| 89 | Williams 82 | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 77.0 | 36.3 | | 13.2 | 4.3 | |
| 57 | Corsoy 79 | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 62.5 | 37.8 | | 13.9 | 4.8 | |
| 60 | Kent | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 97.5 | 40.3 | | 12.6 | 4.5 | |
| 74 | Pella | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 87.0 | 49.8 | | 16.4 | 4.5 | |
| 71 | Hodgson 78 | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 41.8 | 52.8 | | 13.5 | 3.8 | |
| 87 | Clay | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 48.0 | 50.5 | | 14.5 ⁽³⁾ | 4.5 | |
| 36 | Evans | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 41.3 | 49.0 | | 12.4 | 4.5 | |
| 70 | Hardin | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 46.0 | 51.0 | | 12.5 | 4.5 | |
| 88 | Lakota | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 40.8 | 58.3 | | 12.4 | 3.0 | |
| 35 | Crawford | 1.0 ⁽¹⁾ | 1.0 ⁽¹⁾ | 97.8 | 56.5 | | 10.8 | 3.3 | |
| Grand mean | | 1.0 | 1.0 | 70.3 | 42.8 | | 13.2 | 4.1 | |
| Standard error of cultivar mean | | 0.0 | 0.0 | 6.1 | 4.4 | | 1.8 | 0.3 | |
| Coefficient of variation (%) | | 0.0 | 0.0 | 17.2 | 20.5 | | 13.4 | 14.0 | |
| 5% LSD Cultivar means (*****=ns) | | ***** | ***** | 17.2 | 12.5 | | ***** | 0.8 | |

Table 75. Trial 816, 1982

Country: TURKEY
Region: MIDDLE EAST

Latitude: 38°25'N
Longitude: 27°05'E

Zone: 10 Group: C
Elevation (m): 20

Site: MENEMEN, IZMIR

Cooperator(s): Y. ZIA KUTLU, SUAT CINSOY

Date planted: July 15, 1982

Date harvested: October 1, 1982

Fertilizer used (kg/ha): N 30.0, P 60.0

Total moisture (mm): 600

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 69 | Essex | | 33.0 | 128.0 | | | | | |
| 74 | Pella | 3,734.3 | 17.0 | 95.5 | | | | | 73.6 |
| 35 | Crawford | 3,656.1 | 29.3 | 102.0 | | | | | 90.5 |
| 86 | Fayette | 3,447.8 | 22.5 | 93.0 | | | | | 65.3 |
| 89 | Williams 82 | 3,432.2 | 20.5 | 95.0 | | | | | 69.8 |
| 72 | Amcor | 3,276.0 | 16.5 | 95.3 | | | | | 65.5 |
| 60 | Kent | 3,276.0 | 28.8 | 104.5 | | | | | 69.7 |
| 84 | Sparks | 3,197.9 | 21.0 | 101.5 | | | | | 75.0 |
| 85 | Pixie | 3,098.8 | 25.0 | 95.8 | | | | | 33.7 |
| 70 | Hardin | 2,994.7 | 14.5 | 95.0 | | | | | 60.4 |
| 73 | Century | 2,932.2 | 15.5 | 94.0 | | | | | 50.1 |
| 57 | Corsoy 79 | 2,807.2 | 14.5 | 90.0 | | | | | 58.5 |
| 36 | Evans | 2,522.0 | 12.0 | 93.0 | | | | | 45.7 |
| 88 | Lakota | 2,322.8 | 16.0 | 79.3 | | | | | 65.0 |
| 87 | Clay | 2,109.3 | 13.5 | 86.5 | | | | | 46.9 |
| 71 | Hodgson 78 | 1,932.2 | 12.5 | 92.0 | | | | | 50.2 |
| | Grand mean | 2,982.6 | 19.5 | 96.3 | | | | | 61.3 |
| | Standard error of cultivar mean | 145.5 | 1.3 | 1.8 | | | | | 3.2 |
| | Coefficient of variation (%) | 9.8 | 12.9 | 3.7 | | | | | 10.4 |
| 5% LSD Cultivar means (****=ns) | | 415.3 | 3.6 | 5.0 | | | | | 9.1 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|---------------------------------|---------|------------|------------------|------------|--------------|---------------------|--------------------|---------------|
| 69 | Essex | 1.0 | 1.0 | | | | 23.7 ⁽³⁾ | 2.0 ⁽³⁾ | 72.0 |
| 74 | Pella | 1.0 | 1.0 | 149.0 | 25.6 | 7.8 | 22.8 | 1.0 | 93.0 |
| 35 | Crawford | 1.0 | 1.0 | 153.8 | 29.6 | 10.6 | 22.6 | 1.0 | 90.0 |
| 86 | Fayette | 1.0 | 1.0 | 147.5 | 32.4 | 5.8 | 18.6 | 1.0 | 99.0 |
| 89 | Williams 82 | 1.0 | 1.0 | 139.5 | 31.1 | 7.2 | 18.8 | 1.0 | 100.0 |
| 72 | Amcor | 1.0 | 1.0 | 152.0 | 35.6 | 6.7 | 19.5 | 2.0 | 96.5 |
| 60 | Kent | 1.0 | 1.0 | 159.3 | 33.9 | 9.9 | 21.7 | 1.0 | 96.8 |
| 84 | Sparks | 1.0 | 1.0 | 139.5 | 35.2 | 6.7 | 22.2 | 1.0 | 100.0 |
| 85 | Pixie | 1.0 | 1.0 | 165.8 | 30.4 | 6.4 | 19.5 | 1.0 | 83.0 |
| 70 | Hardin | 1.0 | 1.0 | 144.0 | 34.6 | 5.1 | 18.0 | 2.0 | 98.0 |
| 73 | Century | 1.0 | 1.0 | 145.0 | 31.4 | 6.1 | 19.5 | 1.0 | 100.0 |
| 57 | Corsoy 79 | 1.0 | 1.0 | 148.8 | 31.9 | 5.3 | 17.0 | 2.0 | 93.0 |
| 36 | Evans | 1.0 | 1.0 | 146.5 | 41.3 | 5.0 | 16.8 | 2.0 | 89.0 |
| 88 | Lakota | 1.0 | 1.0 | 144.0 | 35.9 | 6.2 | 18.2 | 1.0 | 94.0 |
| 87 | Clay | 1.0 | 1.0 | 125.5 | 26.3 | 5.0 | 17.3 | 2.0 | 84.0 |
| 71 | Hodgson 78 | 1.0 | 1.0 | 117.5 | 33.4 | 6.0 | 17.0 | 1.0 | 88.0 |
| | Grand mean | 1.0 | 1.0 | 145.2 | 32.6 | 6.7 | 19.5 | 1.4 | 92.3 |
| | Standard error of cultivar mean | 0.0 | 0.0 | 7.2 | 3.6 | 1.1 | 2.2 | 0.5 | 0.5 |
| | Coefficient of variation (%) | 0.0 | 0.0 | 10.0 | 22.0 | 32.6 | 11.3 | 35.6 | 1.1 |
| 5% LSD Cultivar means (****=ns) | | ***** | 0.0 | 20.6 | ***** | 3.1 | ***** | 0.0 | 1.4 |

Table 76. Trial 837, 1982

Country: TURKEY Latitude: 35°19'N Zone: 10 Group: C
 Region: MIDDLE EAST Longitude: 35°15'E Elevation (m): 90
 Site: ADANA
 Cooperator(s): IBRAHIM ATAKISI, HALIS ARIOGLU
 Date planted: June 22, 1982 Date harvested: September 8, 1982
 Soil type: loam 32.1%, silt 43.5%, clay 24.4%, pH 7.5
 Fertilizer used (kg/ha): N 25.0, P 41.7
 Total moisture (mm): 787
 Number of irrigations: 4
 Substituted cultivar(s): Amsoy 71, Calland

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 70 | Hardin | 2,527.6 | 27.0 | 80.0 | 2.5 | 1.5 | 44.8 | 68.8 | 62.6 |
| 72 | Amcor | 2,477.6 | 27.0 | 71.0 | 2.5 | 1.0 | 56.0 | 76.5 | 70.9 |
| 68 | Amsoy 71 | 2,471.3 | 58.0 | 71.0 | 2.5 | 1.0 | 63.8 | 87.3 | 80.7 |
| 57 | Corsoy 79 | 2,413.0 | 25.0 | 82.0 | 2.0 | 1.0 | 36.0 | 72.0 | 59.1 |
| 69 | Essex | 2,354.6 | 42.0 | 113.0 | 2.0 | 1.0 | 51.3 | 68.8 | 71.3 |
| 21 | Calland | 2,317.1 | 58.0 | 83.0 | 2.5 | 1.0 | 66.0 | 91.0 | 74.2 |
| 88 | Lakota | 1,935.8 | 27.0 | 82.0 | 2.0 | 1.5 | 60.5 | 84.0 | 70.9 |
| 71 | Hodgson 78 | 1,894.1 | 27.0 | 72.0 | 2.5 | 1.0 | 49.0 | 76.8 | 58.4 |
| 36 | Evans | 1,783.7 | 57.0 | 82.0 | 1.5 | 1.0 | 56.8 | 83.5 | 48.4 |
| 87 | Clay | 1,571.2 | 27.0 | 82.0 | 3.0 | 2.0 | 41.3 | 71.3 | 43.6 |
| 60 | Kent | 1,427.4 | 43.0 | 72.0 | 2.0 | 1.0 | 57.5 | 80.3 | 79.2 |
| 73 | Century | 1,135.6 | 27.0 | 82.0 | 2.5 | 1.0 | 56.3 | 72.8 | 56.9 |
| 35 | Crawford | 131.5 | 39.0 | 82.0 | 2.0 | 1.0 | 53.5 | 78.8 | 71.6 |
| 85 | Pixie | 93.6 | 58.0 | 82.0 | 3.0 | 1.0 | 68.8 | 77.0 | 32.2 |
| 89 | Williams 82 | 78.7 | 42.0 | 82.0 | 2.0 | 1.0 | 55.3 | 81.8 | 55.1 |
| 86 | Fayette | 64.8 | 40.0 | 80.0 | 3.0 | 1.0 | 40.8 | 82.8 | 54.1 |
| 74 | Pella | 64.4 | 27.0 | 82.0 | 3.0 | 1.0 | 56.5 | 76.0 | 56.1 |
| 84 | Sparks | 46.1 | 27.0 | 80.0 | 2.0 | 1.0 | 47.0 | 75.3 | 58.0 |
| Grand mean | | 1,377.1 | 37.7 | 81.1 | 2.4 | 1.1 | 53.4 | 78.0 | 61.3 |
| Standard error of cultivar mean | | 231.2 | 0.0 | 0.0 | 0.5 | 0.2 | 8.4 | 5.5 | 3.3 |
| Coefficient of variation (%) | | 33.6 | 0.0 | 0.0 | 37.9 | 37.1 | 31.3 | 14.1 | 10.9 |
| 5% LSD Cultivar means (****=ns) | | 656.5 | 0.0 | 0.0 | **** | 0.6 | **** | **** | 9.5 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 70 | Hardin | 1.0 | 1.0 | 137.3 | 38.6 | 7.5 | 17.1 | 1.0 | 80.0 |
| 72 | Amcor | 1.0 | 1.0 | 146.0 | 46.1 | 9.0 | 17.0 | 1.0 | 89.0 |
| 68 | Amsoy 71 | 1.0 | 1.0 | 146.8 | 50.1 | 10.9 | 17.1 | 1.0 | 95.0 |
| 57 | Corsoy 79 | 1.0 | 1.0 | 122.0 | 41.6 | 6.4 | 18.8 | 1.0 | 90.0 |
| 69 | Essex | 1.0 | 1.0 | 156.0 | 50.5 | 17.8 | 15.5 | 1.0 | 95.0 |
| 21 | Calland | 1.0 | 1.0 | 120.3 | 41.9 | 11.7 | 19.6 | 1.0 | 98.0 |
| 88 | Lakota | 1.0 | 1.0 | 159.3 | 35.6 | 8.1 | 15.1 | 1.0 | 80.0 |
| 71 | Hodgson 78 | 1.0 | 1.0 | 147.3 | 33.6 | 8.4 | 16.8 | 1.0 | 95.0 |
| 36 | Evans | 1.0 | 1.0 | 153.3 | 30.5 | 6.2 | 16.9 | 1.0 | 91.0 |
| 87 | Clay | 1.0 | 1.0 | 137.0 | 21.4 | 7.6 | 18.9 | 1.0 | 85.0 |
| 60 | Kent | 1.0 | 1.0 | 138.0 | 30.4 | 16.3 | 16.2 | 1.0 | 91.0 |
| 73 | Century | 1.0 | 1.0 | 170.3 | 30.0 | 9.0 | 12.6 | 2.0 | 95.0 |
| 35 | Crawford | 1.0 | 1.0 | 146.5 | 11.9 | 17.4 | 11.4 | 4.0 | 75.0 |
| 85 | Pixie | 1.0 | 1.0 | 142.3 | 14.4 | 7.4 | 9.9 | 3.0 | 90.0 |
| 89 | Williams 82 | 1.0 | 1.0 | 127.8 | 13.9 | 9.6 | 9.3 | 3.0 | 84.0 |
| 86 | Fayette | 1.0 | 1.0 | 135.0 | 19.7 | 9.2 | 8.2 | 4.0 | 74.0 |
| 74 | Pella | 1.0 | 1.0 | 137.0 | 15.5 | 11.7 | 10.6 | 4.0 | 70.0 |
| 84 | Sparks | 1.0 | 1.0 | 123.8 | 19.9 | 10.8 | 8.9 | 4.0 | 70.0 |
| Grand mean | | 1.0 | 1.0 | 141.4 | 30.3 | 10.3 | 14.4 | 1.9 | 85.9 |
| Standard error of cultivar mean | | 0.0 | 0.0 | 12.4 | 2.5 | 0.9 | 0.0 | 0.0 | 0.0 |
| Coefficient of variation (%) | | 0.0 | 0.0 | 17.6 | 16.7 | 17.5 | 0.2 | 0.0 | 0.0 |
| 5% LSD Cultivar means (****=ns) | | **** | **** | **** | 7.2 | 2.6 | 0.0 | 0.0 | 0.0 |

Table 77. Trial 570, 1982

Country: UNITED STATES
 Region: NORTH AMERICA
 Site: WESLACO, TEXAS
 Cooperator(s): RICHARD A. CREELMAN
 Date planted: August 25, 1982

Latitude: 26°N
 Longitude: 97°W
 Date harvested: December 7, 1982

Zone: 7 Group: A
 Elevation (m): 30

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 76 | SIATSA 194 | 2,444.6 | 42.8 | | | | | | 78.8 |
| 77 | ICA L-124 | 2,281.9 | 30.0 | | | | | | 50.0 |
| 79 | 71-38 | 2,227.7 | 41.3 | | | | | | 46.0 |
| 2 | UFV-1 | 2,222.1 | 40.5 | | | | | | 35.5 |
| 45 | ICA L-109 | 2,214.5 | 42.3 | | | | | | 77.0 |
| 19 | Davis | 2,174.2 | 29.5 | | | | | | 23.5 |
| 9 | Jupiter | 2,156.6 | 46.3 | | | | | | 64.5 |
| 46 | Ecuador 2 | 2,111.1 | 41.8 | | | | | | 42.8 |
| 78 | ISRA/IRAT 44A/73 | 2,065.9 | 39.5 | | | | | | 56.0 |
| 13 | Bossier | 2,049.0 | 30.8 | | | | | | 28.3 |
| 39 | IGH 23 | 1,852.7 | 44.8 | | | | | | 68.3 |
| 89 | Williams 82 | 1,806.2 | 30.8 | | | | | | 51.3 |
| 43 | Alamo | 1,747.0 | 41.3 | | | | | | 55.5 |
| 40 | IGH 24 | 1,746.6 | 43.8 | | | | | | 79.8 |
| 10 | Improved Pelican | 1,743.6 | 36.0 | | | | | | 72.3 |
| 64 | ICA L-125 | 1,365.5 | 39.5 | | | | | | 73.3 |
| Grand mean | | 2,013.1 | 38.8 | | | | | | 56.4 |
| Standard error of cultivar mean | | 92.0 | 2.5 | | | | | | 2.7 |
| Coefficient of variation (%) | | 9.1 | 12.9 | | | | | | 9.7 |
| 5% LSD Cultivar means (*****=ns) | | 262.0 | 7.1 | | | | | | 7.8 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 76 | SIATSA 194 | 1.3 | 1.3 | 135.5 | 24.0 | 17.8 | 16.8 | 1.5 | 95.3 |
| 77 | ICA L-124 | 1.8 | 1.3 | 138.8 | 27.3 | 13.8 | 16.4 | 1.0 | 94.8 |
| 79 | 71-38 | 1.0 | 1.0 | 108.8 | 40.3 | 11.3 | 10.2 | 2.0 | 96.0 |
| 2 | UFV-1 | 1.0 | 1.0 | 127.5 | 27.3 | 10.0 | 12.9 | 1.3 | 97.8 |
| 45 | ICA L-109 | 1.3 | 1.0 | 127.0 | 27.3 | 20.0 | 11.3 | 1.3 | 98.5 |
| 19 | Davis | 1.3 | 1.8 | 124.5 | 18.5 | 7.5 | 15.6 | 1.3 | 94.0 |
| 9 | Jupiter | 1.0 | 1.0 | 110.0 | 28.8 | 22.5 | 15.5 | 1.3 | 90.8 |
| 46 | Ecuador 2 | 1.0 | 1.0 | 131.8 | 31.0 | 13.8 | 13.6 | 2.0 | 96.5 |
| 78 | ISRA/IRAT 44A/73 | 1.3 | 1.3 | 125.8 | 37.0 | 11.5 | 11.1 | 1.0 | 119.8 |
| 13 | Bossier | 1.0 | 1.8 | 116.3 | 24.3 | 6.8 | 15.1 | 2.3 | 86.5 |
| 39 | IGH 23 | 1.8 | 1.0 | 124.8 | 28.5 | 28.3 | 13.5 | 1.3 | 96.5 |
| 89 | Williams 82 | 1.0 | 1.3 | 138.5 | 17.3 | 9.8 | 15.2 | 1.5 | 93.5 |
| 43 | Alamo | 1.3 | 1.0 | 131.8 | 24.3 | 17.0 | 12.0 | 1.5 | 98.5 |
| 40 | IGH 24 | 1.5 | 1.0 | 127.3 | 44.3 | 19.0 | 12.6 | 1.3 | 97.8 |
| 10 | Improved Pelican | 1.0 | 1.0 | 124.3 | 30.5 | 14.0 | 11.7 | 1.5 | 94.3 |
| 64 | ICA L-125 | 1.3 | 1.0 | 138.0 | 30.0 | 17.5 | 9.9 | 1.3 | 96.0 |
| Grand mean | | 1.2 | 1.2 | 126.9 | 28.8 | 15.0 | 13.3 | 1.4 | 96.6 |
| Standard error of cultivar mean | | 0.2 | 0.2 | 7.6 | 3.5 | 1.8 | 0.4 | 0.3 | 6.6 |
| Coefficient of variation (%) | | 34.5 | 26.4 | 11.9 | 24.1 | 24.3 | 5.9 | 35.2 | 13.6 |
| 5% LSD Cultivar means (*****=ns) | | ***** | 0.4 | ***** | 9.9 | 5.2 | 1.1 | 0.7 | ***** |

Table 78. Trial 832, 1982

Country: UNITED STATES
Region: NORTH AMERICA
Site: URBANA, ILLINOIS
Cooperator(s): INTSOY

Latitude: 40°07'N
Longitude: 88°13'W

Zone: 10 Group: C
Elevation (m): 226

Date planted: May 19, 1982

Date harvested: September 1982

Soil type: loam 5.8%, silt 69%, clay 25.2%, pH 6.6

Total moisture (mm): 435

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|------------------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 74 | Pella | 3,157.3 | 45.5 | 117.0 | | | | | 109.3 |
| 89 | Williams 82 | 3,088.1 | 36.3 | 121.0 | | | | | 103.5 |
| 85 | Pixie | 3,025.2 | 49.0 | 129.3 | | | | | 76.0 |
| 84 | Sparks | 3,022.3 | 61.0 | 121.5 | | | | | 125.0 |
| 72 | Amcor | 2,858.5 | 36.0 | 99.0 | | | | | 113.5 |
| 57 | Corsoy 79 | 2,840.1 | 32.5 | 101.0 | | | | | 108.3 |
| 88 | Lakota | 2,832.2 | 34.5 | 97.5 | | | | | 113.3 |
| 60 | Kent | 2,778.5 | 46.0 | 139.3 | | | | | 115.0 |
| 73 | Century | 2,772.2 | 34.3 | 99.8 | | | | | 104.3 |
| 86 | Fayette | 2,611.4 | 42.5 | 117.8 | | | | | 112.5 |
| 36 | Evans | 2,533.4 | 32.3 | 92.5 | | | | | 83.0 |
| 70 | Hardin | 2,514.3 | 35.5 | 103.3 | | | | | 96.0 |
| 71 | Hodgson 78 | 2,489.4 ⁽³⁾ | 28.3 | 96.8 | | | | | 99.0 |
| 35 | Crawford | 2,433.4 | 74.8 | 146.5 | | | | | 123.0 |
| 87 | Clay | 2,386.3 | 31.3 | 90.0 | | | | | 61.5 |
| 69 | Essex | 2,010.0 | 59.8 | 145.0 | | | | | 107.8 |
| Grand mean | | 2,713.0 | 42.5 | 113.6 | | | | | 103.2 |
| Standard error of cultivar mean | | 497.1 | 4.3 | 3.2 | | | | | 4.7 |
| Coefficient of variation (%) | | 18.3 | 20.2 | 5.6 | | | | | 9.1 |
| 5% LSD Cultivar means (*****=ns) | | ***** | 12.2 | 9.1 | | | | | 13.3 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|---------|------------|------------------|------------|--------------|---------------------|-----------------|---------------|
| 74 | Pella | 2.0 | 1.0 | 163.8 | 50.0 | 13.3 | 19.4 | 3.0 | |
| 89 | Williams 82 | 2.0 | 1.0 | 158.3 | 41.3 | 19.8 | 16.8 | 2.0 | |
| 85 | Pixie | 1.0 | 1.3 | 149.0 | 33.0 | 14.5 | 16.8 | 2.3 | |
| 84 | Sparks | 3.5 | 1.0 | 158.8 | 37.8 | 19.0 | 18.4 | 2.8 | |
| 72 | Amcor | 4.5 | 1.3 | 127.0 | 35.5 | 18.3 | 16.3 | 3.3 | |
| 57 | Corsoy 79 | 3.8 | 1.3 | 138.0 | 43.0 | 18.5 | 14.3 | 2.3 | |
| 88 | Lakota | 4.3 | 1.3 | 149.5 | 45.3 | 15.3 | 14.8 | 2.5 | |
| 60 | Kent | 2.5 | 1.0 | 154.8 | 43.8 | 29.0 | 18.3 | 2.0 | |
| 73 | Century | 3.0 | 1.0 | 155.0 | 33.8 | 16.5 | 16.3 | 3.8 | |
| 86 | Fayette | 2.3 | 1.0 | 136.3 | 49.8 | 20.0 | 16.2 | 2.8 | |
| 36 | Evans | 1.8 | 2.8 | 137.8 | 46.3 | 10.3 | 13.5 | 2.5 | |
| 70 | Hardin | 2.8 | 1.0 | 120.5 | 42.8 | 9.3 | 14.5 | 2.0 | |
| 71 | Hodgson 78 | 2.5 | 1.3 | 146.8 | 40.8 | 12.5 | 14.0 ⁽³⁾ | 2.3 | |
| 35 | Crawford | 3.5 | 1.3 | 141.5 | 42.8 | 26.8 | 16.8 | 1.8 | |
| 87 | Clay | 1.8 | 1.8 | 123.8 | 41.3 | 9.3 | 14.5 | 2.3 | |
| 69 | Essex | 3.3 | 1.0 | 133.8 | 58.0 | 37.3 | 13.8 | 1.8 | |
| Grand mean | | 2.8 | 1.3 | 143.4 | 42.8 | 18.1 | 15.9 | 2.5 | |
| Standard error of cultivar mean | | 0.4 | 0.2 | 12.6 | 5.0 | 2.0 | 2.0 | 1.0 | |
| Coefficient of variation (%) | | 26.1 | 31.8 | 17.5 | 23.5 | 22.1 | 12.8 | 38.9 | |
| 5% LSD Cultivar means (*****=ns) | | 1.0 | 0.6 | ***** | ***** | 5.7 | ***** | ***** | |

Table 79. Trial 729, 1982

Country: URUGUAY Latitude: 33°S Zone: 10 Group: B
Region: SOUTH AMERICA Longitude: 54°W Elevation (m): 30
Site: TREINTA Y TRES
Cooperator(s): ENRIQUE DEAMBROSI, NICOLAS CHEBATAROFF
Date planted: December 9, 1982 Date harvested: April 4, 1983
Soil type: loam 26%, silt 60%, clay 14%
Fertilizer used (kg/ha): N 30.0 P 35.2
Total moisture (mm): 598
Number of irrigations: 2 (50 mm)

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 44 | Foster | 2,749.6 | 64.5 | 129.8 | | | | | 78.0 |
| 35 | Crawford | 2,669.9 | 55.0 | 114.0 | | | | | 71.8 |
| 82 | PK-73-86 | 2,440.8 | 67.3 | 133.8 | | | | | 84.8 |
| 75 | Braxton | 2,381.9 | 64.8 | 128.3 | | | | | 74.8 |
| 89 | Williams 82 | 2,341.8 | 55.8 | 113.0 | | | | | 58.5 |
| 19 | Davis | 2,246.5 | 64.8 | 130.3 | | | | | 78.8 |
| 47 | PK-73-94 | 2,228.3 | 65.8 | 131.8 | | | | | 77.8 |
| 83 | CEP 7717 | 1,970.0 | 64.0 | 130.5 | | | | | 70.0 |
| 77 | ICA L-124 | 1,942.9 | 65.8 | 134.8 | | | | | 91.3 |
| 25 | Bragg | 1,406.6 | 65.3 | 132.0 | | | | | 67.5 |
| 81 | Ecuador 1 | 1,242.5 | 89.0 | 160.8 | | | | | 107.0 |
| 37 | G 2120 | 1,071.2 | 88.5 | 164.3 | | | | | 99.3 |
| 43 | Alamo | 966.5 | 84.3 | 148.3 | | | | | 88.8 |
| 76 | SIATSA 194 | 633.2 | 93.8 | 166.5 | | | | | 109.3 |
| Grand mean | | 1,878.0 | 70.6 | 137.0 | | | | | 82.7 |
| Standard error of cultivar mean | | 161.8 | 1.0 | 1.0 | | | | | 5.5 |
| Coefficient of variation (%) | | 17.2 | 2.8 | 1.4 | | | | | 13.3 |
| 5% LSD Cultivar means (****=ns) | | 462.9 | 2.8 | 2.8 | | | | | 15.7 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 44 | Foster | | | 110.8 | 54.0 | 11.8 | 16.0 | 2.0 | 69.8 |
| 35 | Crawford | | | 90.0 | 39.5 | 10.0 | 20.0 | 2.3 | 46.8 |
| 82 | PK-73-86 | | | 79.0 | 63.5 | 16.0 | 19.1 | 2.3 | 84.8 |
| 75 | Braxton | | | 113.3 | 37.0 | 15.5 | 22.2 | 2.3 | 77.5 |
| 89 | Williams 82 | | | 122.5 | 35.0 | 10.0 | 22.1 | 2.5 | 35.0 |
| 19 | Davis | | | 119.3 | 44.3 | 13.5 | 18.5 | 2.0 | 91.5 |
| 47 | PK-73-94 | | | 126.8 | 46.8 | 15.3 | 17.2 | 2.5 | 65.0 |
| 83 | CEP 7717 | | | 119.3 | 39.8 | 15.3 | 16.3 | 2.3 | 64.8 |
| 77 | ICA L-124 | | | 79.3 | 48.0 | 12.3 | 19.2 | 2.0 | 87.5 |
| 25 | Bragg | | | 32.8 | 68.3 | 11.8 | 19.5 | 2.5 | 79.3 |
| 81 | Ecuador 1 | | | 104.5 | 42.5 | 10.0 | 20.4 | 3.8 | 45.5 |
| 37 | G 2120 | | | 149.8 | 39.8 | 13.0 | 8.3 | 4.0 | 77.3 |
| 43 | Alamo | | | 118.8 | 34.5 | 17.3 | 15.2 | 3.0 | 63.8 |
| 76 | SIATSA 194 | | | 83.5 | 28.8 | 15.8 | 20.3 | 4.3 | 30.3 |
| Grand mean | | | | 103.5 | 44.4 | 13.4 | 18.2 | 2.7 | 65.6 |
| Standard error of cultivar mean | | | | 15.1 | 6.5 | 1.8 | 0.6 | 0.3 | 9.9 |
| Coefficient of variation (%) | | | | 29.2 | 29.1 | 26.9 | 6.5 | 25.5 | 30.1 |
| 5% LSD Cultivar means (****=ns) | | | | 43.2 | 18.5 | 5.1 | 1.7 | 1.0 | 28.2 |

Table 80. Trial 724, 1982

Country: VIETNAM Latitude: 23°N Zone: 7 Group: B
 Region: ASIA Longitude: 105°E Elevation (m): 50
 Site: EXPERIMENTAL LEGUME CENTER, DINH
 Cooperator(s): BOHUMIR HLAVA, J. JARA
 Date planted: not reported Date harvested: not reported

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 9 | Jupiter | | 67.0 | 122.8 | 1.3 | | 96.5 | | 61.5 |
| 37 | G 2120 | | 82.0 | | 1.0 | | 98.8 | | |
| 82 | PK-73-86 | 1,124.5 | 52.0 | 106.0 | 2.0 | 5.0 | 98.8 | 91.3 | 31.3 |
| 80 | HM-1 | 1,026.1 | 55.0 | 111.0 | 2.5 | 3.3 | 99.0 | 93.8 | 33.6 |
| 47 | PK-73-94 | 1,011.0 | 52.0 | 106.0 | 2.3 | 3.8 | 98.8 | 96.3 | 25.7 |
| 89 | Williams 82 | 923.8 | 52.0 | 105.0 | 2.3 | 1.8 | 99.0 | 82.5 | 34.3 |
| 83 | CEP 7717 | 822.8 | 55.0 | 102.0 | 2.5 | 4.0 | 98.3 | 90.8 | 33.9 |
| 77 | ICA L-124 | 551.5 | 55.0 | 110.0 | 1.8 | 2.8 | 99.5 | 79.5 | 39.7 |
| 19 | Davis | 453.8 | 53.0 | 104.3 | 1.3 | 2.8 | 98.5 | 90.5 | 17.4 |
| 76 | SIATSA 194 | 423.3 | 67.0 | 123.0 | 3.0 | 3.3 | 99.0 | 62.5 | 87.4 |
| 69 | Essex | 401.1 | 53.0 | 115.0 | 1.5 | 4.5 | 98.5 | 91.3 | 20.0 |
| 13 | Bossier | 371.2 | 52.0 | 105.0 | 1.5 | 1.8 | 98.3 | 87.3 | 19.0 |
| 81 | Ecuador 1 | 367.6 | 67.0 | 123.3 | 2.5 | 2.5 | 99.0 | 54.0 | 46.8 |
| 75 | Braxton | 286.8 | 53.0 | 115.0 | 1.5 | 3.0 | 98.0 | 94.0 | 20.9 |
| 44 | Foster | 266.1 | 53.0 | 106.0 | 1.3 | 2.8 | 98.3 | 92.0 | 17.2 |
| 43 | Alamo | 143.8 | 67.0 | 123.0 | 1.3 | 1.3 | 99.0 | 57.5 | 47.4 |
| Grand mean | | 583.8 | 58.4 | 111.8 | 1.8 | 3.0 | 98.6 | 83.1 | 35.3 |
| Standard error of cultivar mean | | 25.7 | 0.0 | 0.2 | 0.3 | 0.5 | 0.5 | 6.0 | 1.3 |
| Coefficient of variation (%) | | 8.8 | 0.0 | 0.4 | 30.1 | 30.9 | 1.1 | 14.4 | 7.4 |
| 5% LSD Cultivar means (*****=ns) | | 73.4 | 0.0 | 0.6 | 0.8 | 1.3 | ***** | 17.1 | 3.7 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 9 | Jupiter | 2.0 | 1.8 | 196.3 | 11.7 | 24.2 | | 5.0 | |
| 37 | G 2120 | | | | | | | | |
| 82 | PK-73-86 | 1.0 | 1.0 | 195.5 | 18.0 | 7.0 | 16.0 | 1.3 | 71.5 |
| 80 | HM-1 | 1.0 | 1.0 | 195.5 | 15.6 | 6.7 | 17.5 | 2.0 | 84.8 |
| 47 | PK-73-94 | 1.0 | 1.0 | 193.5 | 15.6 | 5.2 | 18.0 | 2.0 | 82.0 |
| 89 | Williams 82 | 1.0 | 1.0 | 189.8 | 18.6 | 2.8 | 16.0 | 4.0 | 73.0 |
| 83 | CEP 7717 | 1.0 | 1.0 | 195.8 | 20.8 | 8.3 | 11.3 | 2.0 | 89.0 |
| 77 | ICA L-124 | 1.0 | 1.0 | 196.3 | 8.8 | 5.8 | 14.4 | 4.0 | 84.3 |
| 19 | Davis | 1.0 | 1.0 | 195.8 | 13.7 | 3.8 | 16.6 | 3.0 | 75.5 |
| 76 | SIATSA 194 | 2.0 | 1.0 | 191.0 | 18.9 | 19.3 | 9.9 | 4.0 (2) | 90.3 (3) |
| 69 | Essex | 1.0 | 1.0 | 191.5 | 6.1 | 4.0 | 19.6 | | 35.5 |
| 13 | Bossier | 1.0 | 1.0 | 192.0 | 12.5 | 3.4 | 17.3 | 3.0 | 90.8 |
| 81 | Ecuador 1 | 1.0 | 1.0 | 194.0 | 21.6 | 9.1 | 10.1 | 5.0 | 9.8 |
| 75 | Braxton | 1.0 | 1.0 | 193.3 | 4.2 | 5.3 | 23.4 | | 18.8 |
| 44 | Foster | 1.0 | 1.0 | 189.5 | 7.5 | 5.2 | 18.4 | 5.0 | 60.3 |
| 43 | Alamo | 1.0 | 1.0 | 199.0 | 21.1 | 15.5 | 6.7 | 5.0 | 14.8 |
| Grand mean | | 1.1 | 1.1 | 193.9 | 14.3 | 8.4 | 15.4 | 3.4 | 62.4 |
| Standard error of cultivar mean | | 0.0 | 0.2 | 2.0 | 0.6 | 0.6 | 0.4 | 1.3 | 29.7 |
| Coefficient of variation (%) | | 0.0 | 36.9 | 2.0 | 8.4 | 13.3 | 4.7 | 39.4 | 47.7 |
| 5% LSD Cultivar means (*****=ns) | | 0.0 | ***** | 5.7 | 1.7 | 1.6 | 1.0 | ***** | ***** |

Table 81. Trial 811, 1982

| | | | |
|--|---------------------------------|-------------------|----------|
| Country: YUGOSLAVIA | Latitude: 45°N | Zone: 13 | Group: C |
| Region: EUROPE | Longitude: 20°21'E | Elevation (m): 84 | |
| Site: ZEMUN POLIE, BEOGRAD | | | |
| Cooperator(s): VITOMIR BEKRIC, JAHKO DUMANOVIC | | | |
| Date planted: June 4, 1982 | Date harvested: October 1, 1982 | | |
| Total moisture (mm): 369 | | | |

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 69 | Essex | | | | | | | | |
| 70 | Hardin | 2,756.2 | 53.5 | 142.0 | | | | | 149.5 |
| 74 | Pella | 2,423.0 | 54.8 | 146.8 | | | | | 169.0 |
| 72 | Amcor | 2,380.9 | 54.3 | 147.0 | | | | | 179.3 |
| 57 | Corsoy 79 | 2,376.1 | 53.3 | 142.3 | | | | | 156.3 |
| 71 | Hodgson 78 | 2,365.9 | 51.3 | 127.5 | | | | | 139.0 |
| 73 | Century | 2,352.0 | 54.5 | 147.0 | | | | | 159.0 |
| 89 | Williams 82 | 2,314.3 | 61.0 | 158.5 | | | | | 151.8 |
| 86 | Fayette | 2,241.2 | 60.0 | 154.8 | | | | | 185.0 |
| 85 | Pixie | 2,086.3 | 59.3 | 167.0 | | | | | 73.0 |
| 36 | Evans | 2,043.3 | 51.3 | 118.3 | | | | | 114.8 |
| 84 | Sparks | 2,024.2 | 56.5 | 163.3 | | | | | 184.8 |
| 88 | Lakota | 1,983.8 | 53.5 | 134.8 | | | | | 181.8 |
| 60 | Kent | 1,824.3 | 64.5 | 168.3 | | | | | 167.0 |
| 87 | Clay | 1,735.8 | 50.8 | 112.3 | | | | | 86.3 |
| 35 | Crawford | 1,635.8 | 66.8 | 169.3 | | | | | 177.8 |
| Grand mean | | 2,169.5 | 56.3 | 146.6 | | | | | 151.6 |
| Standard error of cultivar mean | | 182.9 | 1.5 | 2.1 | | | | | 3.8 |
| Coefficient of variation (%) | | 16.9 | 5.1 | 2.9 | | | | | 5.1 |
| 5% LSD Cultivar means (*****=ns) | | 522.0 | 4.1 | 6.0 | | | | | 10.9 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 69 | Essex | | | | | | | | |
| 70 | Hardin | 4.0 | | 246.3 | 52.8 | 15.5 | 19.1 | | |
| 74 | Pella | 3.0 | | 180.0 | 48.3 | 20.3 | 23.6 | | |
| 72 | Amcor | 3.5 | | 220.8 | 67.8 | 16.8 | 21.7 | | |
| 57 | Corsoy 79 | 3.8 | | 222.8 | 63.3 | 17.5 | 16.8 | | |
| 71 | Hodgson 78 | 2.5 | | 233.3 | 44.3 | 17.0 | 20.2 | | |
| 73 | Century | 3.3 | | 210.5 | 57.5 | 19.0 | 20.3 | | |
| 89 | Williams 82 | 3.3 | | 175.8 | 78.5 | 23.0 | 19.8 | | |
| 86 | Fayette | 3.3 | | 217.8 | 54.5 | 23.8 | 19.1 | | |
| 85 | Pixie | 1.5 | | 189.8 | 71.3 | 20.3 | 19.7 | | |
| 36 | Evans | 2.0 | | 282.0 | 36.0 | 15.3 | 21.5 | | |
| 84 | Sparks | 4.3 | | 183.8 | 61.3 | 24.5 | 20.6 | | |
| 88 | Lakota | 3.8 | | 229.8 | 58.5 | 17.3 | 15.9 | | |
| 60 | Kent | 4.8 | | 146.0 | 51.8 | 24.8 | 20.4 | | |
| 87 | Clay | 2.0 | | 241.0 | 38.3 | 15.0 | 21.9 | | |
| 35 | Crawford | 5.0 | | 188.5 | 64.3 | 25.0 | 18.5 | | |
| Grand mean | | 3.3 | | 211.2 | 56.5 | 19.7 | 19.9 | | |
| Standard error of cultivar mean | | 0.2 | | 12.7 | 4.5 | 1.1 | 0.4 | | |
| Coefficient of variation (%) | | 12.5 | | 12.0 | 15.7 | 11.1 | 3.5 | | |
| 5% LSD Cultivar means (*****=ns) | | 0.6 | | 36.1 | 12.7 | 3.1 | 1.0 | | |

Table 82. Trial 720, 1982

Country: ZAIRE Latitude: 2°19'S Zone: 3 Group: B
 Region: AFRICA Longitude: 28°45'E Elevation (m): 1,731
 Site: MULUNGU, KIVU
 Cooperator(s): QUYEN H. NGUYEN, ELUKESU, BOUWE, KOMBA, BAKULIKIRA
 Date planted: September 20, 1982 Date harvested: March 1983
 Soil type: loam 5.0%, silt 10.0%, clay 85.0%, pH 6.24, BO-S22, ferrisol humifere
 Substituted cultivar(s): Tokyo-Vert, Imperial

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|---------------------------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 9 | Jupiter | | 85.0 | 153.0 | 2.3 | 2.5 | 100.0 | 62.5 | 102.2 |
| 243 | Imperial | 2,489.7 | 46.0 | 136.8 | 2.0 | 1.3 | 97.5 | 87.5 | 66.2 |
| 19 | Davis | 2,408.8 | 52.0 | 128.0 | 2.8 | 2.3 | 95.0 | 55.0 | 60.7 |
| 82 | PK-73-86 | 2,085.8 | 56.0 | 130.0 | 2.0 | 2.0 | 96.3 | 51.3 | 65.5 |
| 47 | PK-73-94 | 1,950.4 | 48.0 | 124.8 | 1.8 | 1.3 | 93.8 | 37.5 | 61.7 |
| 89 | Williams 82 | 1,907.0 | 35.5 | 110.0 | 1.8 | 1.8 | 95.0 | 62.5 | 48.4 |
| 69 | Essex | 1,821.2 | 43.5 | 117.5 | 2.0 | 1.0 | 93.8 | 95.0 | 51.0 |
| 44 | Foster | 1,796.6 | 45.8 | 115.0 | 2.0 | 1.5 | 95.0 | 65.0 | 54.6 |
| 206 | Tokyo-Vert | 1,748.3 | 45.0 | 110.0 | 2.3 | 1.0 | 96.3 | 91.3 | 54.3 |
| 83 | CEP 7717 | 1,674.9 | 59.0 | 132.8 | 2.3 | 1.8 | 98.8 | 88.8 | 66.0 |
| 80 | HM-1 | 1,506.6 | 56.0 | 132.3 | 2.0 | 1.3 | 91.3 | 60.0 | 67.4 |
| 81 | Ecuador 1 | 1,414.9 | 65.3 | 143.0 | 2.0 | 2.8 | 93.8 | 71.3 | 66.1 |
| 75 | Braxton | 1,252.8 | 45.0 | 120.0 | 2.3 | 1.5 | 93.8 | 77.5 | 52.1 |
| 43 | Alamo | 1,180.2 | 64.3 | 151.0 | 3.3 | 3.0 | 97.5 | 56.3 | 75.8 |
| 76 | SIATSA 194 | 1,068.1 | 75.0 | 153.0 | 1.8 | 1.0 | 97.5 | 65.0 | 116.8 |
| 13 | Bossier | 954.4 | 41.0 | 110.0 | 2.8 | 2.0 | 97.5 | 60.0 | 43.4 |
| | Grand mean | 1,684.0 | 53.9 | 129.2 | 2.2 | 1.7 | 95.8 | 67.9 | 65.7 |
| | Standard error of cultivar mean | 213.5 | 3.0 | 2.1 | 0.2 | 0.2 | 2.5 | 8.7 | 3.0 |
| | Coefficient of variation (%) | 25.4 | 11.0 | 3.2 | 22.2 | 27.5 | 5.3 | 25.7 | 9.0 |
| 5% LSD Cultivar means (****=ns) | | 609.4 | 8.4 | 5.9 | 0.7 | 0.7 | **** | 24.8 | 8.4 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 9 | Jupiter | 3.3 | 1.0 | 170.3 | 40.3 | 12.1 | | | |
| 243 | Imperial | 4.5 | 1.0 | 181.8 | 33.0 | 8.9 | 20.5 | 2.0 | 77.0 |
| 19 | Davis | 2.3 | 1.0 | 192.3 | 37.3 | 9.1 | 19.3 | 2.3 | 92.0 |
| 82 | PK-73-86 | 4.3 | 1.0 | 179.0 | 43.3 | 10.9 | 20.5 | 2.3 | 95.0 |
| 47 | PK-73-94 | 3.3 | 1.0 | 172.3 | 40.0 | 11.1 | 19.5 | 2.3 | 89.0 |
| 89 | Williams 82 | 2.0 | 1.0 | 194.8 | 25.5 | 7.6 | 19.8 | 2.0 | 95.0 |
| 69 | Essex | 1.0 | 1.0 | 203.3 | 28.0 | 10.9 | 18.5 | 2.5 | 94.0 |
| 44 | Foster | 2.3 | 1.0 | 181.8 | 36.0 | 11.0 | 20.5 | 3.0 | 88.8 |
| 206 | Tokyo-Vert | 2.5 | 1.0 | 158.3 | 29.5 | 15.9 | 20.0 | 2.0 | 98.0 |
| 83 | CEP 7717 | 4.0 | 1.0 | 165.8 | 35.5 | 11.8 | 19.3 | 2.8 | 89.0 |
| 80 | HM-1 | 4.0 | 1.0 | 187.8 | 31.8 | 10.3 | 20.3 | 2.3 | 96.0 |
| 81 | Ecuador 1 | 5.0 | 1.0 | 166.5 | 48.0 | 10.7 | 19.5 | 2.3 | 98.0 |
| 75 | Braxton | 1.5 | 1.0 | 178.5 | 20.5 | 9.4 | 19.8 | 2.8 | 98.0 |
| 43 | Alamo | 4.5 | 1.0 | 196.0 | 62.3 | 7.9 | 21.3 | 3.3 | 97.0 |
| 76 | SIATSA 194 | 3.8 | 1.0 | 188.0 | 65.8 | 14.3 | 20.3 | 5.0 | 97.0 |
| 13 | Bossier | 2.0 | 1.0 | 177.5 | 18.3 | 11.1 | 21.0 | 3.0 | 93.0 |
| | Grand mean | 3.1 | 1.0 | 180.8 | 37.2 | 10.8 | 20.0 | 2.6 | 93.1 |
| | Standard error of cultivar mean | 0.3 | 0.0 | 7.0 | 4.4 | 1.4 | 0.6 | 0.3 | 1.1 |
| | Coefficient of variation (%) | 17.6 | 0.0 | 7.7 | 23.7 | 25.5 | 5.8 | 24.6 | 2.3 |
| 5% LSD Cultivar means (****=ns) | | 0.8 | **** | 19.8 | 12.6 | 3.9 | **** | 0.9 | 3.0 |

Table 83. Trial 744, 1982

Country: ZAIRE Latitude: 02°19'S Zone: 3 Group: B
Region: AFRICA Longitude: 28°45'E Elevation (m): 1,700
Site: MULUNGU, INERA STATION
Cooperator(s): QUYEN H. NGUYEN, ELUKESU, BAKULIKIRA, BOUWE, KOMBA
Date planted: March 3, 1983 Date harvested: June 23, 1983
Soil type: loam 5.0%, silt 10.0%, clay 85.0%, pH 6.24
Total moisture (mm): 627
Substituted cultivar(s): Imperial and Tokyo-Vert

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 1010 | PK-308 | 1,755.8 | 43.0 | 126.0 | 2.0 | 1.5 | 81.3 | 32.5 | 41.9 |
| 206 | Tokyo-Vert | 1,617.0 | 49.8 | 133.0 | 1.3 | 1.5 | 85.0 | 57.5 | 48.6 |
| 47 | PK-73-94 | 1,313.2 | 44.0 | 140.0 | 1.3 | 1.3 | 71.3 | 57.5 | 38.9 |
| 79 | 71-38 | 1,281.1 | 51.5 | 128.0 | 2.5 | 2.0 | 90.0 | 32.5 | 52.5 |
| 35 | Crawford | 1,197.3 | 41.3 | 115.0 | 1.8 | 2.0 | 86.3 | 55.0 | 58.6 |
| 243 | Imperial | 1,112.3 | 43.5 | 134.0 | 3.0 | 2.0 | 83.8 | 60.0 | 42.4 |
| 19 | Davis | 1,101.5 | 47.3 | 126.0 | 2.0 | 2.0 | 90.0 | 61.3 | 40.3 |
| 37 | G 2120 | 844.3 | 83.5 | 153.3 | 2.0 | 1.8 | 88.8 | 52.5 | 114.9 |
| 76 | SIATSA 194 | 788.9 | 63.0 | 158.0 | 2.0 | 1.0 | 88.8 | 75.0 | 85.0 |
| 43 | Alamo | 732.7 | 63.5 | 150.3 | 2.5 | 2.3 | 91.3 | 30.0 | 66.4 |
| 89 | Williams 82 | 710.1 | 41.5 | 126.0 | 2.0 | 1.8 | 80.0 | 71.3 | 38.8 |
| 44 | Foster | 698.1 | 41.0 | 134.0 | 2.0 | 2.0 | 90.0 | 87.5 | 38.8 |
| 49 | Centennial | 655.6 | 42.0 | 130.8 | 1.8 | 2.0 | 81.3 | 65.0 | 36.6 |
| 69 | Essex | 634.7 | 41.0 | 130.8 | 1.8 | 1.5 | 76.3 | 78.8 | 33.1 |
| 9 | Jupiter | 615.1 | 82.5 | 153.3 | 2.5 | 2.5 | 85.0 | 25.0 | 85.8 |
| 75 | Braxton | 421.3 | 43.0 | 128.0 | 2.3 | 2.0 | 86.3 | 50.0 | 39.3 |
| Grand mean | | 967.4 | 51.3 | 135.4 | 2.0 | 1.8 | 84.7 | 55.7 | 53.9 |
| Standard error of cultivar mean | | 169.0 | 1.9 | 4.1 | 0.2 | 0.2 | 5.4 | 9.2 | 2.5 |
| Coefficient of variation (%) | | 34.9 | 7.5 | 6.1 | 23.6 | 26.8 | 12.8 | 32.9 | 9.2 |
| 5% LSD Cultivar means (*****=ns) | | 481.4 | 5.5 | 11.8 | 0.7 | 0.7 | ***** | 26.1 | 7.1 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 1010 | PK-308 | 1.0 | 1.0 | 210.3 | 20.0 | 5.6 | 20.5 | 2.0 | 77.3 |
| 206 | Tokyo-Vert | 1.5 | 2.8 | 165.3 | 22.3 | 11.0 | 29.5 | 2.3 | 77.0 |
| 47 | PK-73-94 | 1.5 | 1.8 | 181.5 | 24.3 | 7.7 | 22.3 | 2.8 | 83.5 |
| 79 | 71-38 | 1.8 | 1.0 | 200.5 | 39.3 | 9.7 | 15.5 | 2.0 | 77.3 |
| 35 | Crawford | 1.5 | 1.0 | 187.0 | 26.0 | 9.4 | 20.8 | 2.8 | 83.5 |
| 243 | Imperial | 1.0 | 1.0 | 193.0 | 16.0 | 5.3 | 19.8 | 4.0 | 68.8 |
| 19 | Davis | 1.0 | 1.0 | 210.8 | 21.5 | 5.7 | 21.3 | 2.3 | 86.3 |
| 37 | G 2120 | 5.0 | 1.5 | 195.0 | 65.5 | 25.8 | 9.0 | 2.0 | 67.3 |
| 76 | SIATSA 194 | 4.5 | 1.3 | 181.0 | 35.8 | 17.0 | 21.0 | 3.0 | 77.8 |
| 43 | Alamo | 4.3 | 1.3 | 169.3 | 27.3 | 18.1 | 18.5 | 3.0 | 82.5 |
| 89 | Williams 82 | 1.3 | 1.0 | 198.5 | 20.8 | 6.2 | 20.8 | 3.0 | 80.5 |
| 44 | Foster | 1.3 | 1.0 | 224.3 | 12.0 | 3.4 | 18.8 | 3.0 | 81.8 |
| 49 | Centennial | 1.3 | 1.0 | 230.5 | 12.8 | 5.4 | 20.0 | 3.3 | 83.8 |
| 69 | Essex | 1.0 | 1.3 | 245.3 | 11.0 | 6.4 | 17.5 | 2.8 | 77.3 |
| 9 | Jupiter | 4.3 | 1.0 | 164.5 | 49.5 | 21.9 | 21.0 | 2.8 | 65.3 |
| 75 | Braxton | 1.0 | 1.0 | 123.8 | 7.0 | 3.8 | 23.8 | 4.0 | 78.0 |
| Grand mean | | 2.1 | 1.2 | 192.5 | 25.7 | 10.1 | 20.0 | 2.8 | 78.0 |
| Standard error of cultivar mean | | 0.2 | 0.2 | 14.7 | 4.0 | 1.1 | 0.8 | 0.3 | 7.4 |
| Coefficient of variation (%) | | 23.3 | 29.5 | 15.2 | 31.1 | 22.5 | 8.1 | 21.8 | 18.9 |
| 5% LSD Cultivar means (*****=ns) | | 0.7 | 0.5 | 41.8 | 11.4 | 3.3 | 2.3 | 0.9 | ***** |

Table 84. Trial 588, 1982

Country: ZAMBIA Latitude: 16°01'S Zone: 6 Group: A
Region: AFRICA Longitude: 27°46'E Elevation (m): 1,067
Site: MAGOYE REGIONAL STATION
Cooperator(s): JAGOMAN JOSHI, F. JAVAHERI
Date planted: December 27, 1982 Date harvested: March 18, 1983
Fertilizer used (kg/ha): N 30.0, P 30.0, K 30.0
Substituted cultivar(s): Kaleya, Santa Rosa, Magoye, Foster

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|----------------------------------|------------------|---------------|----------------|------------------|-----------------|-----------------|----------------------|----------------------|----------------|
| 225 | Kaleya | 1,878.1 | 44.0 | 104.5 | 3.0 | 3.0 | 92.5 ⁽²⁾ | 81.3 | 51.8 |
| 64 | ICA L-125 | 1,441.5 | 51.0 | 107.0 | 3.0 | 3.0 | 93.3 ⁽³⁾ | 77.5 | 73.8 |
| 46 | Ecuador 2 | 1,428.6 | 41.5 | 100.0 | 3.8 | 3.0 | | 82.5 | 47.5 |
| 78 | ISRA/IRAT 44A/73 | 1,300.6 | 51.3 | 100.0 | 3.0 | 2.8 | 97.5 ⁽²⁾ | 78.8 | 49.5 |
| 43 | Alamo | 1,241.1 | 51.0 | 102.0 | 3.5 | 3.3 | 90.0 ⁽²⁾ | 60.0 ⁽³⁾ | 49.5 |
| 258 | Santa Rosa | 1,214.2 | 39.0 | 93.0 | 3.3 | 3.0 | 80.0 ⁽¹⁾ | 76.3 | 45.3 |
| 77 | ICA L-124 | 1,151.4 | 37.0 | 97.8 | 3.3 | 2.5 | 100.0 ⁽¹⁾ | 80.0 | 52.3 |
| 76 | SIATSA 194 | 1,144.5 | 51.0 | 102.0 | 3.0 | 2.5 | 87.5 ⁽²⁾ | 70.0 | 75.8 |
| 226 | Magoye | 1,037.0 | 48.0 | 106.3 | 3.3 | 3.0 | 90.0 ⁽¹⁾ | 81.3 | 42.0 |
| 45 | ICA L-109 | 1,036.8 | 58.0 | 110.0 | 3.0 | 3.0 | 80.0 ⁽¹⁾ | 71.3 | 79.8 |
| 9 | Jupiter | 1,021.9 | 58.3 | 107.8 | 3.5 | 3.5 | | 95.0 ⁽¹⁾ | 66.8 |
| 40 | IGH 24 | 878.6 | 59.0 | 122.0 | 3.3 | 3.0 | 90.0 ⁽¹⁾ | 71.3 | 68.0 |
| 19 | Davis | 874.3 | 33.0 | 83.0 | 3.5 | 3.0 | | 100.0 ⁽²⁾ | 42.0 |
| 89 | Williams 82 | 811.3 | 24.0 | 72.0 | 3.5 | 2.8 | 100.0 ⁽¹⁾ | 98.8 | 40.5 |
| 44 | Foster | 751.9 | 26.0 | 75.0 | 3.0 | 3.5 | | 90.0 ⁽³⁾ | 25.8 |
| 39 | IGH 23 | 667.9 | 55.0 | 111.0 | 3.8 | 3.0 | | 77.5 ⁽²⁾ | 68.3 |
| Grand mean | | 1,117.5 | 45.4 | 99.6 | 3.3 | 3.0 | 91.5 | 79.6 | 54.9 |
| Standard error of cultivar mean | | 145.4 | 0.7 | 0.7 | 0.3 | 0.2 | 8.4 | 14.4 | 2.7 |
| Coefficient of variation (%) | | 26.0 | 3.2 | 1.4 | 16.6 | 15.7 | 9.2 | 18.0 | 9.7 |
| 5% LSD Cultivar means (*****=ns) | | 414.2 | 2.1 | 2.0 | ***** | ***** | ***** | ***** | 7.6 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|----------------------------------|------------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 225 | Kaleya | 2.5 | 1.0 | 192.5 | 19.8 | 19.0 | 14.4 | 1.0 | |
| 64 | ICA L-125 | 2.8 | 1.0 | 204.0 | 29.3 | 25.3 | 13.2 | 1.0 | |
| 46 | Ecuador 2 | 2.0 | 1.0 | 146.0 | 18.8 | 19.0 | 16.1 | 1.0 | |
| 78 | ISRA/IRAT 44A/73 | 3.0 | 1.0 | 198.5 | 18.5 | 19.5 | 14.0 | 1.0 | |
| 43 | Alamo | 2.8 | 1.0 | 177.3 | 17.5 | 18.8 | 14.1 | 1.0 | |
| 258 | Santa Rosa | 2.3 | 1.0 | 168.5 | 30.8 | 10.8 | 14.0 | 1.0 | |
| 77 | ICA L-124 | 3.3 | 1.0 | 134.0 | 18.5 | 16.8 | 20.5 | 1.3 | |
| 76 | SIATSA 194 | 2.8 | 1.0 | 191.0 | 20.3 | 29.0 | 19.6 | 1.3 | |
| 226 | Magoye | 2.0 | 1.0 | 144.0 | 20.0 | 13.8 | 12.0 | 2.3 | |
| 45 | ICA L-109 | 3.5 | 1.0 | 163.5 | 38.3 | 20.5 | 11.2 | 1.8 | |
| 9 | Jupiter | 2.8 | 1.0 | 112.5 | 25.3 | 21.3 | 14.9 | 2.0 | |
| 40 | IGH 24 | 2.3 | 1.0 | 189.0 | 25.3 | 23.3 | 13.6 | 1.8 | |
| 19 | Davis | 2.0 | 1.0 | 179.0 | 18.3 | 7.5 | 15.5 | 1.3 | |
| 89 | Williams 82 | 2.3 | 1.0 | 241.0 | 16.0 | 7.8 | 15.3 | 1.8 | |
| 44 | Foster | 2.3 | 1.0 | 233.8 | 16.8 | 7.3 | 13.4 | 2.8 | |
| 39 | IGH 23 | 3.0 | 1.0 | 144.8 | 27.3 | 25.0 | 16.1 | 2.0 | |
| Grand mean | | 2.6 | 1.0 | 176.2 | 22.5 | 17.8 | 14.9 | 1.5 | |
| Standard error of cultivar mean | | 0.2 | 0.0 | 13.8 | 2.7 | 1.7 | 0.6 | 0.2 | |
| Coefficient of variation (%) | | 16.1 | 0.0 | 15.7 | 24.1 | 18.7 | 8.1 | 26.5 | |
| 5% LSD Cultivar means (*****=ns) | | 0.6 | ***** | 39.3 | 7.7 | 4.7 | 1.7 | 0.6 | |

Table 85. Trial 723, 1982

Country: ZIMBABWE Latitude: 17°48'S Zone: 6 Group: B
Region: AFRICA Longitude: 31°03'E Elevation (m): 1,506
Site: HARARE RESEARCH STATION
Cooperator(s): J. S. TICHAGWA, J. R. TATTERSFIELD
Date planted: December 13, 1982 Date harvested: March 28, 1983
Soil type: loam 23%, silt 21%, clay 56%, pH 5.7
Fertilizer used (kg/ha): K 49.8
Total moisture (mm): 564
Number of irrigations: 7 (182 mm)
Substituted cultivar(s): Sable, Duiker, Oribi

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|---------------|---------------|----------------|
| 1009 | Sable | 4,110.0 | 50.0 | 121.0 | 4.0 | 1.8 | 95.0 | 67.5 | 91.3 |
| 1088 | Duiker | 4,027.1 | 50.0 | 121.0 | 4.0 | 2.5 | 87.5 | 48.8 | 82.5 |
| 217 | Oribi | 3,698.2 | 46.0 | 121.0 | 4.0 | 2.0 | 91.3 | 70.0 | 79.3 |
| 75 | Braxton | 3,605.3 | 46.0 | 116.0 | 4.0 | 1.0 | 95.0 | 76.3 | 72.0 |
| 44 | Foster | 3,511.1 | 46.0 | 116.0 | 4.0 | 1.0 | 81.3 | 48.8 | 74.8 |
| 47 | PK-73-94 | 3,464.0 | 50.0 | 121.0 | 4.0 | 1.0 | 93.8 | 87.5 | 72.3 |
| 19 | Davis | 3,303.2 | 50.0 | 121.0 | 4.0 | 1.8 | 98.8 | 81.3 | 78.0 |
| 13 | Bossier | 3,105.2 | 46.0 | 121.0 | 4.0 | 2.0 | 98.8 | 62.5 | 69.0 |
| 77 | ICA L-124 | 2,813.5 | 50.0 | 127.0 | 4.0 | 1.8 | 96.3 | 86.3 | 93.3 |
| 80 | HM-1 | 2,802.6 | 53.0 | 130.0 | 4.0 | 1.0 | 96.3 | 88.8 | 91.0 |
| 89 | Williams 82 | 2,599.7 | 26.0 | 99.0 | 4.0 | 3.0 | 95.0 | 32.5 | 52.3 |
| 81 | Ecuador 1 | 2,385.9 | 67.0 | 138.5 | 4.0 | 2.0 | 93.8 | 78.8 | 96.5 |
| 43 | Alamo | 1,771.2 | 74.0 | 146.8 | 4.0 | 3.0 | 93.8 | 76.3 | 107.8 |
| 76 | SIATSA 194 | 1,130.2 | 71.0 | 147.5 | 4.0 | 1.3 | 91.3 | 87.5 | 171.5 |
| 37 | G 2120 | 843.9 | 81.0 | 146.8 | 4.0 | 2.3 | 98.8 | 71.3 | 164.0 |
| 9 | Jupiter | 656.4 | 81.0 | 153.3 | 4.0 | 2.0 | 88.8 | 70.0 | 133.8 |
| Grand mean | | 2,739.2 | 55.4 | 127.9 | 4.0 | 1.8 | 93.4 | 70.9 | 95.6 |
| Standard error of cultivar mean | | 130.2 | 0.0 | 1.5 | 0.0 | 0.3 | 3.3 | 7.7 | 2.0 |
| Coefficient of variation (%) | | 9.5 | 0.0 | 2.3 | 0.0 | 36.4 | 7.1 | 21.9 | 4.3 |
| 5% LSD Cultivar means (****=ns) | | 370.8 | 0.0 | 4.2 | **** | 1.0 | 9.5 | 22.1 | 5.8 |

| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
|---------------------------------|-------------|---------|------------|------------------|------------|--------------|------------------|-----------------|---------------|
| 1009 | Sable | 2.0 | 1.0 | 200.0 | 32.3 | 17.0 | 20.6 | 2.0 | 92.8 |
| 1088 | Duiker | 1.8 | 1.0 | 197.0 | 35.3 | 15.7 | 22.1 | 2.0 | 92.8 |
| 217 | Oribi | 2.3 | 1.0 | 199.8 | 35.0 | 14.1 | 20.5 | 2.0 | 95.3 |
| 75 | Braxton | 1.3 | 1.0 | 200.0 | 26.0 | 8.7 | 23.1 | 3.0 | 84.5 |
| 44 | Foster | 4.5 | 1.0 | 196.8 | 45.0 | 12.6 | 14.9 | 3.0 | 90.3 |
| 47 | PK-73-94 | 3.3 | 1.8 | 200.0 | 45.3 | 10.8 | 16.1 | 3.0 | 94.8 |
| 19 | Davis | 3.3 | 1.0 | 200.0 | 42.3 | 10.7 | 19.6 | 2.0 | 90.5 |
| 13 | Bossier | 3.8 | 1.0 | 200.0 | 29.5 | 9.2 | 18.8 | 3.8 | 84.3 |
| 77 | ICA L-124 | 4.3 | 1.0 | 200.0 | 48.8 | 8.9 | 19.8 | 3.0 | 85.8 |
| 80 | HM-1 | 5.0 | 1.0 | 200.0 | 54.8 | 7.9 | 19.3 | 3.0 | 83.0 |
| 89 | Williams 82 | 1.0 | 1.0 | 200.0 | 20.3 | 2.6 | 18.9 | 3.0 | 90.3 |
| 81 | Ecuador 1 | 4.5 | 1.0 | 200.0 | 78.5 | 13.0 | 17.4 | 3.3 | 88.8 |
| 43 | Alamo | 5.0 | 2.0 | 200.0 | 79.5 | 21.7 | 13.0 | 3.8 | 87.3 |
| 76 | SIATSA 194 | 5.0 | 2.0 | 200.0 | 54.5 | 15.3 | 14.7 | 4.5 | 87.3 |
| 37 | G 2120 | 5.0 | 2.0 | 200.0 | 76.8 | 17.3 | 6.5 | 5.0 | 85.5 |
| 9 | Jupiter | 5.0 | 2.0 | 200.0 | 53.5 | 14.9 | 12.4 | 5.0 | 89.0 |
| Grand mean | | 3.6 | 1.3 | 199.6 | 47.3 | 12.5 | 17.4 | 3.2 | 88.9 |
| Standard error of cultivar mean | | 0.3 | 0.1 | 1.1 | 3.2 | 0.7 | 0.3 | 0.2 | 2.6 |
| Coefficient of variation (%) | | 17.2 | 9.6 | 1.1 | 13.7 | 11.1 | 3.9 | 11.4 | 5.8 |
| 5% LSD Cultivar means (****=ns) | | 0.9 | 0.2 | **** | 9.2 | 2.0 | 1.0 | 0.5 | 7.4 |

Agronomic Characteristics for Individual Sites, 1981

Table 86. Trial 200, 1981

| Country: AUSTRALIA | | Latitude: 28°13'S | | Zone: 7 | | Group: special | |
|-----------------------------------|-------------------|---------------------|-------------------------------|--------------------|-----------------|----------------------|--|
| Region: OCEANIA | | Longitude: 152°06'E | | Elevation (m): 300 | | | |
| Site: HERMITAGE RESEARCH STATION | | | | | | | |
| Cooperator(s): JOHN L. ROSE | | | | | | | |
| Date planted: December 10, 1982 | | | Date harvested: June 16, 1983 | | | | |
| Soil type: black alluvial clay | | | | | | | |
| Total moisture (mm): 1,107 | | | | | | | |
| Number of irrigations: 3 (420 mm) | | | | | | | |
| | | | | | | | |
| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Lodging | Quality of seed | Phyto-phthora rating | |
| 125 | Rosales-S-80 | 3,626.0 | 74.0 | 2.0 | 4.7 | 1.0 | |
| 1010 | PK-308 | 3,592.0 | 72.0 | 2.0 | 4.0 | 1.4 | |
| 19 | Davis | 3,372.0 | 76.0 | 2.0 | 4.7 | 0.8 | |
| 1008 | IPB 185-77 | 3,249.0 | 73.0 | 2.0 | 4.0 | 0.8 | |
| 1156 | IPB-190-77 BRAZIL | 3,012.0 | ** | 3.0 | 4.3 | 0.8 | |
| 1007 | BR-1 | 2,959.0 | 76.0 | 3.0 | 5.0 | 1.6 | |
| 1175 | PK-300 INDIA | 2,899.0 | 71.0 | 3.0 | 5.6 | 5.6 | |
| 1129 | DB 1593 AUSTRALIA | 2,763.0 | 74.0 | 2.0 | 5.3 | 4.3 | |
| 1043 | IPB 204-77 | 2,614.0 | ** | 3.0 | 5.0 | 2.7 | |
| 1183 | Sant'ana | 2,451.0 | 71.0 | 3.0 | 4.7 | 1.5 | |
| 13 | Bossier | 2,295.0 | 72.0 | 5.0 | 6.0 | 4.6 | |
| 1122 | BR-2 BRAZIL | 2,220.0 | 74.0 | 1.0 | 4.7 | 1.6 | |
| 1198 | TXR 585 LIBYA | 2,189.0 | ** | 4.0 | 4.3 | 3.7 | |
| 1042 | Sanalona-77 | 2,162.0 | 73.0 | 3.0 | 5.0 | 6.0 | |
| 1015 | ICA L-131 | 2,118.0 | ** | 2.0 | 4.3 | 1.4 | |
| 1020 | N-22 | 2,045.0 | ** | 4.0 | 4.7 | 1.6 | |
| 9012 | MACS-13 INDIA | 2,010.0 | ** | 3.0 | 4.0 | 0.6 | |
| 1001 | BM-2 | 1,924.0 | 66.0 | 2.0 | 6.3 | 6.0 | |
| 1009 | Sable | 1,904.0 | 73.0 | 1.0 | 5.3 | 8.2 | |
| 1014 | ICA L-132 | 1,592.0 | ** | 2.0 | 4.7 | 4.3 | |
| 1006 | Florida | 1,567.0 | 76.0 | 2.0 | 5.0 | 7.2 | |
| 1022 | N-23-A | 1,552.0 | 76.0 | 4.0 | 6.0 | 6.8 | |
| 1003 | Huites-77 | 1,461.0 | 69.0 | 2.0 | 6.0 | 7.3 | |
| 1052 | Sao Luiz | 1,386.0 | ** | 3.0 | 5.0 | 7.6 | |
| 1121 | BM-2(N) MEXICO | 1,309.0 | 66.0 | 2.0 | 6.3 | 7.6 | |
| 1002 | CM | 1,199.0 | 69.0 | 2.0 | 6.3 | 8.2 | |
| 1125 | CB MEXICO | 1,162.0 | 65.0 | 2.0 | 7.3 | 7.0 | |
| 9011 | BM MEXICO | 1,125.0 | 68.0 | 2.0 | 6.3 | 6.4 | |
| 1011 | Tulumayo 2 | 884.0 | ** | 3.0 | 5.0 | 2.3 | |
| 1117 | BB MEXICO | 881.0 | 64.0 | 3.0 | 6.0 | 7.8 | |
| 43 | Alamo | 850.0 | ** | 2.0 | 5.0 | 4.9 | |
| 1004 | Baru | 825.0 | ** | 3.0 | 3.0 | 7.6 | |
| 1019 | NA-2 | 749.0 | ** | 3.0 | 5.0 | 8.6 | |
| 252 | Bayano | 86.0 | ** | 2.0 | 5.4 | 8.7 | |
| 1106 | A75 LIBYA | 34.0 | 46.0 | 1.0 | 7.7 | 1.3 | |
| 1155 | IDIAP-19 PANAMA | 32.0 | ** | 2.0 | 6.0 | 8.1 | |
| Grand mean | | 1,844.0 | 70.0 | 2.5 | 5.3 | 4.6 | |
| Coefficient of variation (%) | | 21.4 | 1.9 | 22.2 | 9.8 | 26.1 | |
| 5% LSD Cultivar means (*****=ns) | | 646.0 | 2.2 | 0.9 | 0.9 | 2.0 | |

Note: results are as calculated by Hermitage Research Station

** days to flowering > 77 days when flood rains occurred

Table 87. Trial 303, 1981

Country: RWANDA

Latitude: 2°29'S

Zone: 3 Group: C

Region: AFRICA

Longitude: 29°46'E

Elevation (m): 1,650

Site: RUBONA

Cooperator(s): PIERRE NYABYENDA

Date planted: March 20, 1982

Date harvested: not reported

Total moisture (mm): 580

| Entry number | Cultivar | Yield (kg/ha) | Days to flower | Days to maturity | Nodule abund. 1 | Nodule abund. 2 | Nodule act. 1 | Nodule act. 2 | Plant ht. (cm) |
|---------------------------------|-------------|---------------|----------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|
| 69 | Essex | 1,500.0 | 46.0 | 98.0 | 2.0 | 2.0 | 53.8 | 23.8 | 37.1 |
| 35 | Crawford | 1,345.0 | 32.0 | 94.3 | 2.0 | 2.5 | 65.0 | 28.8 | 21.7 |
| 51 | Celest | 1,262.5 | 42.0 | 98.0 | 2.0 | 3.0 | 77.5 | 36.3 | 15.0 |
| 73 | Century | 1,232.5 | 32.0 | 83.0 | 2.0 | 2.0 | 68.8 | 32.5 | 20.9 |
| 74 | Pella | 1,215.0 | 32.0 | 83.5 | 2.0 | 2.0 | 46.3 | 22.5 | 24.0 |
| 50 | DeSoto | 1,177.5 | 32.0 | 83.5 | 2.0 | 2.0 | 70.0 | 41.3 | 24.4 |
| 72 | Amcor | 1,167.5 | 32.0 | 83.0 | 2.0 | 2.0 | 56.3 | 40.0 | 17.2 |
| 60 | Kent | 1,125.0 | 32.0 | 83.0 | 2.5 | 2.0 | 70.0 | 38.8 | 25.7 |
| 59 | Will | 1,122.5 | 32.0 | 83.0 | 2.0 | 1.8 | 60.0 | 26.3 | 21.1 |
| 58 | Williams 79 | 1,107.5 | 32.0 | 83.0 | 2.5 | 2.0 | 41.3 | 23.8 | 19.0 |
| 61 | Cumberland | 957.5 | 32.0 | 83.0 | 2.0 | 2.0 | 63.8 | 20.0 | 16.9 |
| 36 | Evans | 725.0 | 32.0 | 83.0 | 2.0 | 2.0 | 66.3 | 40.0 | 15.5 |
| 38 | McCall | 725.0 | 32.0 | 82.8 | 2.0 | 2.5 | 57.5 | 26.3 | 19.0 |
| 71 | Hodgson 78 | 585.0 | 32.0 | 83.0 | 2.0 | 2.0 | 66.3 | 25.0 | 18.8 |
| 57 | Corsoy 79 | 372.5 | 32.0 | 83.5 | 2.0 | 2.0 | 38.8 | 31.3 | 15.9 |
| 70 | Hardin | 177.5 | 32.0 | 83.3 | 2.0 | 2.0 | 55.0 | 33.8 | 14.7 |
| Grand mean | | 987.3 | 33.5 | 85.7 | 2.1 | 2.1 | 59.8 | 30.6 | 20.4 |
| Standard error of cultivar mean | | 107.6 | 0.0 | 0.9 | 0.2 | 0.2 | 8.9 | 7.0 | 1.8 |
| Coefficient of variation (%) | | 21.8 | 0.0 | 2.2 | 17.3 | 22.3 | 29.9 | 45.4 | 17.9 |
| 5% LSD Cultivar means (****=ns) | | 306.4 | 0.0 | 2.7 | **** | **** | **** | **** | 5.2 |
| Entry number | Cultivar | Lodging | Shattering | Plants harvested | Pods/plant | Pod ht. (cm) | 100 Seed wt. (g) | Quality of Seed | Percent Germ. |
| 69 | Essex | 1.0 | 1.0 | 195.0 | 20.6 | | 12.4 | | |
| 35 | Crawford | 1.0 | 1.0 | 181.0 | 9.3 | | 18.5 | | |
| 51 | Celest | 1.0 | 1.0 | 188.5 | 9.0 | | 16.1 | | |
| 73 | Century | 1.0 | 1.0 | 191.0 | 7.1 | | 18.8 | | |
| 74 | Pella | 1.0 | 1.0 | 191.0 | 8.3 | | 19.5 | | |
| 50 | DeSoto | 1.0 | 1.0 | 193.0 | 9.0 | | 18.9 | | |
| 72 | Amcor | 1.0 | 1.0 | 188.3 | 8.1 | | 17.6 | | |
| 60 | Kent | 1.0 | 1.0 | 190.3 | 7.9 | | 18.5 | | |
| 59 | Will | 1.0 | 1.0 | 188.3 | 7.5 | | 17.0 | | |
| 58 | Williams 79 | 1.0 | 1.0 | 191.5 | 6.6 | | 18.3 | | |
| 61 | Cumberland | 1.0 | 1.0 | 183.3 | 5.6 | | 19.1 | | |
| 36 | Evans | 1.0 | 1.0 | 177.8 | 6.9 | | 17.9 | | |
| 38 | McCall | 1.0 | 1.0 | 183.8 | 7.8 | | 14.3 | | |
| 71 | Hodgson 78 | 1.0 | 1.0 | 172.8 | 6.2 | | 17.4 | | |
| 57 | Corsoy 79 | 1.0 | 1.0 | 183.5 | 3.4 | | 16.5 | | |
| 70 | Hardin | 1.0 | 1.0 | 185.8 | 3.3 | | 15.0 | | |
| Grand mean | | 1.0 | 1.0 | 186.5 | 7.9 | | 17.2 | | |
| Standard error of cultivar mean | | 0.0 | 0.0 | 4.7 | 1.0 | | 0.6 | | |
| Coefficient of variation (%) | | 0.0 | 0.0 | 5.0 | 25.9 | | 6.9 | | |
| 5% LSD Cultivar means (****=ns) | | **** | **** | **** | 2.9 | | 1.7 | | |

Abbreviations and Acronyms used in this Report

| | |
|---------------|--|
| AES | Agriculture Experiment Station |
| AVRDC | Asian Vegetable Research and Development Center (Taiwan) |
| CARI | Central Agricultural Research Institute (Sri Lanka) |
| CESDA | Centro Sur de Desarrollo Agropecuario (Dominican Republic) |
| CEP-FECOTRIGO | Centro de Pesquisas-Federacao das Cooperativas Brasileiras de Trigo e Soya Ltda. |
| CIAGON | Centro de Investigaciones Agricolas del Golfo Norte (Mexico) |
| CIAPY | Centro de Investigaciones Agricolas de la Peninsula (Mexico) |
| CNRA | Centre National de la Recherche Agronomiques (Senegal) |
| CORGEPAI | Corporacion Gestora del Proyecto Abapo-Izozog (Bolivia) |
| EMCIP | Egyptian Major Cereals Improvement Project (Egypt) |
| FAO | Food and Agriculture Organization |
| GERDAT | Groupement d'Etudes et de Recherches pour le Developpement de l'Agronomie Tropicale (Tahiti) |
| GTZ | Gesellschaft für Technische Zusammenarbeit (Germany) |
| IAAS | Institute of Agriculture and Animal Science (Nepal) |
| ICA | Instituto Colombiano Agropecuario (Colombia) |
| ICTA | Instituto de Ciencias y Tecnologia Agricola (Guatemala) |
| IDCI | Institut de Developpement des Cultures Industrielles (Algeria) |
| INERA | Institut National Pour l'Etude et la Recherche Agronomiques (Zaire) |
| INIA | Instituto Nacional de Investigaciones Agricolas (Mexico) |
| INIAP | Instituto Nacional de Investigaciones Agropecuarias (Ecuador) |
| INRAF | Institut National de Recherche Agronomique de Foulaya (Guinea) |
| INTA | Instituto Nacional de Tecnologia Agropecuaria (Argentina) |
| INTSOY | International Soybean Program (USA) |
| IRA | Institut de la Recherche Agronomique (France) |
| IRAT | Institut de Recherches Agronomiques Tropicales et des Cultures Vivrieres (France) |
| IRHO | Institut de Recherches pour les Huiles et Oleagineux (France) |
| ISAR | Institut des Sciences Agronomiques du Rwanda (Rwanda) |
| ISRA | Institut Senegalais de la Recherches Agricoles (Senegal) |
| ISVEX | International Soybean Variety Evaluation Experiment |
| MAMISOA | Malagasy Mukarakara Soja Afovoany Andrefana (Madagascar) |
| MASI | Multinational Agribusiness Systems Inc. (USA) |
| MUCIA | Midwest Universities Consortium for International Activities (USA) |
| NRC | National Research Centre (Egypt) |
| OARDC | Ohio Agricultural Research and Development Center (USA) |
| OCEPAR | Organizacao das Cooperativas do Estado do Parana (Brazil) |
| ORD | Office of Rural Development (Korea) |
| SIATSA | Servicios para la Investigacion Agricola Tropical, S.A. (Honduras) |
| UNDP | United Nations Development Programme |
| USAID | United States Agency for International Development (USA) |
| USDA | United States Department of Agriculture (USA) |
| WADA | Western Australia Department of Agriculture (Australia) |

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